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Table of Contents

CHAPTER 1: INTRODUCTION

1.1 BEFORE YOU START

Thank you for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Prepare a dry and stable working environment with sufficient lighting.
- Always disconnect the computer from power outlet before operation.
- Before you take the motherboard out from anti-static bag, ground yourself properly by touching any safely grounded appliance, or use grounded wrist strap to remove the static charge.
- Avoid touching the components on motherboard or the rear side of the board unless necessary. Hold the board on the edge, do not try to bend or flex the board.
- Do not leave any unfastened small parts inside the case after installation. Loose parts will cause short circuits which may damage the equipment.
- Keep the computer from dangerous area, such as heat source, humid air and water.
- The operating temperatures of the computer should be 0 to 45 degrees Celsius.

1.2 PACKAGE CHECKLIST

- IDE Cable X 1 (optional)
- Serial ATA Cable X 3
- Serial ATA Power Cable X 1
- Rear I/O Panel for ATX Case X 1
- User's Manual X 1
- Fully Setup Driver CD X 1
- FDD Cable X 1 (optional)
- USB 2.0 Cable X1 (optional)
- S/PDIF out Cable X 1 (optional)

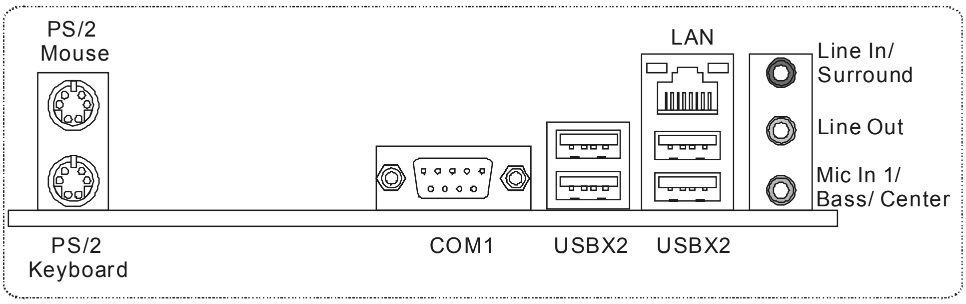
Note: The package contents may be different due to area or your motherboard version.

1.3 Motherboard Features

SPEC		
CPU	Socket AM3 AMD Sempron / Phenom II / Athlon II processors (Maximum Watt: 125W)	AMD 64 Architecture enables 32 and 64 bit computing Supports Hyper Transport 3.0
FSB	Support HyperTransport 3.0 Supports up to 5.2 GT/s Bandwidth	
Chipset	AMD 870 AMD SB850	
Super I/O	ITE 8721 Provides the most commonly used legacy Super I/O functionality. Low Pin Count Interface	Environment Control initiatives, H/W Monitor Fan Speed Controller ITE's "Smart Guardian" function
Main Memory	DDR3 DIMM Slots x 4 Max Memory Capacity 16GB Each DIMM supports 512MB/ 1GB/2GB/4GB DDR3	Dual Channel Mode DDR3 memory module Supports DDR3 800 / 1066 / 1333 Supports DDR3 1600 (OC)
SATA III	Integrated Serial ATA Controller	Data transfer rates up to 6 Gb/s. SATA Version 3.0 specification compliant. RAID 0,1,5,10 support
LAN	Realtek RTL 8111E	10 / 100 Mb/s / 1Gb/s auto negotiation Half / Full duplex capability
Sound	ALC662	5.1channels audio out Supports HD Audio
Slots	PCI Slot x2 PCI Express Gen2 x1 Slot x2 PCI Express Gen2 x16 Slot x2	Supports PCI expansion cards Supports PCI-E Gen2 x1 expansion card Supports PCI-E Gen2 x16, x4 expansion cards
On Board Connectors	SATA Connector x6 Front Panel Connector x1 Front Audio Connector x1 CD-in Connector x1 S/PDIF out Connector x1	Each connector supports 1 SATA device Supports front panel facilities Supports front panel audio function Supports CD audio-in function Supports digital audio out function

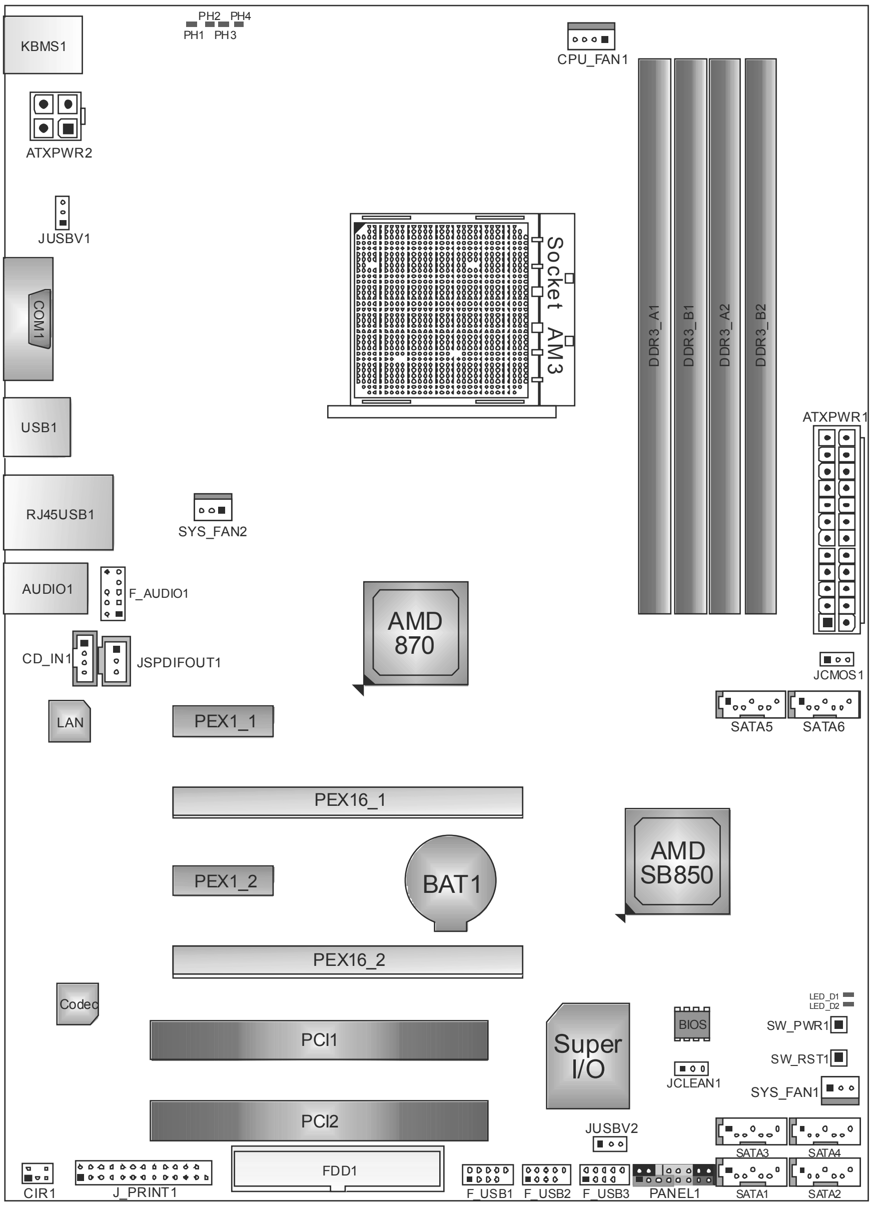
SPEC			
	Consumer IR Connector	x1	Supports infrared function
	CPU Fan Header	x1	CPU Fan power supply (with Smart Fan function)
	System Fan Header	x2	System Fan Power supply
	CMOS clear Header	x1	Restore CMOS data to factory default
	USB Connector	x3	Each connector supports 2 front panel USB ports
	Printer Port Connector	x1	Each connector supports 1 Printer port
	Power Connector (24-Pin)	x1	Connects to Power supply
	Power Connector (4-Pin)	x1	Connects to Power supply
Back Panel I/O	PS/2 Keyboard	x1	Connects to PS/2 Keyboard
	PS/2 Mouse	x1	Connects to PS/2 Mouse
	Serial Port	x1	Connects to RS-232 Port
	LAN port	x1	Connect to RJ-45 ethernet cable
	USB Port	x4	Connect to USB devices
	Audio Jack	x3	Provide Audio-In/Out and microphone connection
Board Size	305 mm (W) x 220 mm (L)		ATX
OS Support	Windows XP / Vista / 7		Biostar reserves the right to add or remove support for any OS With or without notice.

1.4 Rear Panel Connectors



Since the audio chip supports High Definition Audio Specification, the function of each audio jack can be defined by software. The input / output function of each audio jack listed above represents the default setting. However, when connecting external microphone to the audio port, please use the Line In (blue) and Mic In (Pink) audio jack.

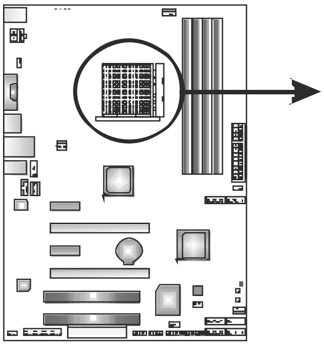
1.5 MOTHERBOARD LAYOUT



Note: ■ represents the 1st pin.

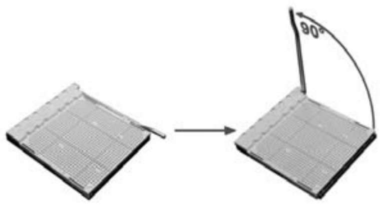
CHAPTER 2: HARDWARE INSTALLATION

2.1 INSTALLING CENTRAL PROCESSING UNIT (CPU)





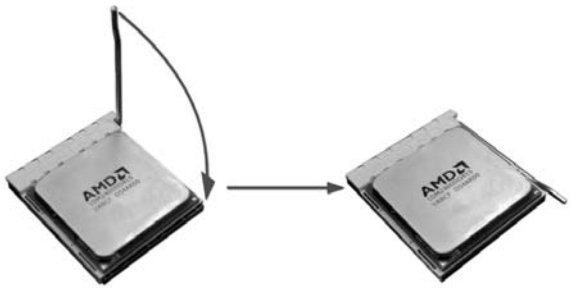
Step 1: Pull the lever toward direction A from the socket and then raise the lever up to a 90-degree angle.



Step 2: Look for the white triangle on socket, and the gold triangle on CPU should point towards this white triangle. The CPU will fit only in the correct orientation.



Step 3: Hold the CPU down firmly, and then close the lever toward direct B to complete the installation.

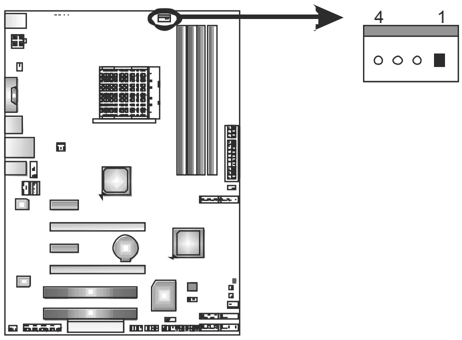


Step 4: Put the CPU Fan on the CPU and buckle it. Connect the CPU FAN power cable to the CPU_FAN1. This completes the installation.

2.2 FAN HEADERS

These fan headers support cooling-fans built in the computer. The fan cable and connector may be different according to the fan manufacturer. Connect the fan cable to the connector while matching the black wire to pin#1.

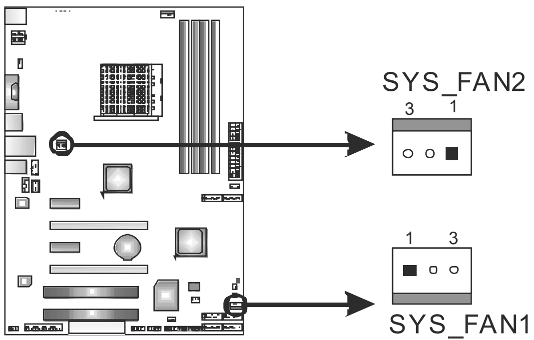
CPU_FAN1: CPU Fan Header



Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense
4	Smart Fan Control (By Fan)

SYS_FAN1: System Fan Header

SYS_FAN2: NorthBridge Fan Header



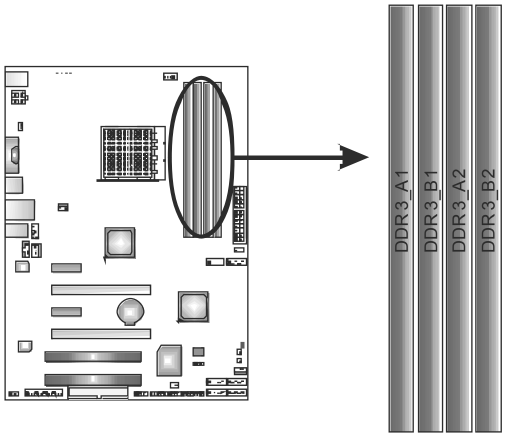
Pin	Assignment
1	Ground
2	+12V
3	FAN RPM rate sense

Note:

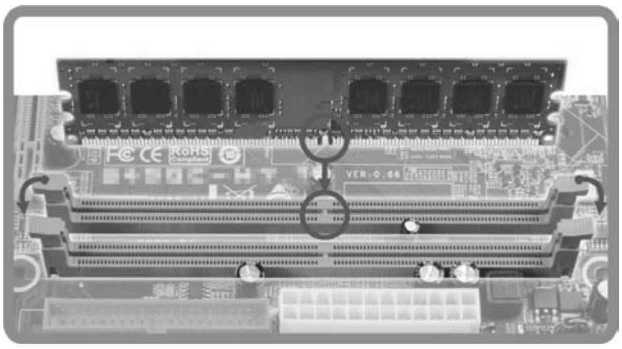
CPU_FAN1, SYS_FAN1/2 support 4-pin and 3-pin head connectors. When connecting with wires onto connectors, please note that the red wire is the positive and should be connected to pin#2, and the black wire is Ground and should be connected to GND.

2.3 Installing System Memory

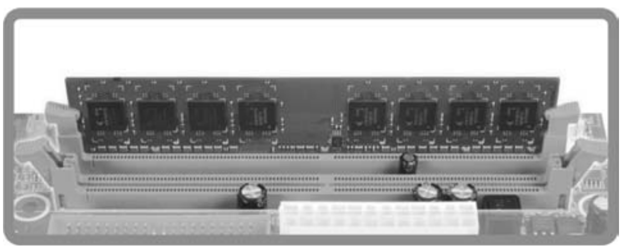
A. DDR3 Modules



1. Unlock a DIMM slot by pressing the retaining clips outward. Align a DIMM on the slot such that the notch on the DIMM matches the break on the Slot.



2. Insert the DIMM vertically and firmly into the slot until the retaining chip snap back in place and the DIMM is properly seated.



B. Memory Capacity

DIMM Socket Location	DDR3 Module	Total Memory Size
DDR3_A1	512MB/1GB/2GB/4GB	Max is 16GB.
DDR3_B1	512MB/1GB/2GB/4GB	
DDR3_A2	512MB/1GB/2GB/4GB	
DDR3_B2	512MB/1GB/2GB/4GB	

C. Dual Channel Memory installation

Please refer to the following requirements to activate Dual Channel function:

Install memory module of the same density in pairs, shown in the table.

Dual Channel Status	DDR3_A1	DDR3_B1	DDR3_A2	DDR3_B2
Enabled	O	O	X	X
Enabled	X	X	O	O
Enabled	O	O	O	O

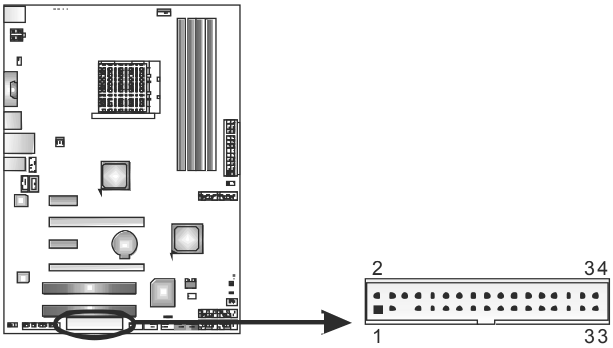
(O: memory installed; X: memory not installed)

The DRAM bus width of the memory module must be the same (x8 or x16)

2.4 Connectors and Slots

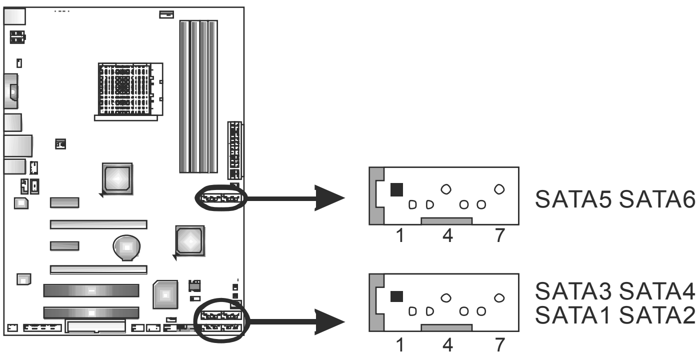
FDD1: Floppy Disk Connector

The motherboard provides a standard floppy disk connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.



SATA1~SATA6: Serial ATA Connectors

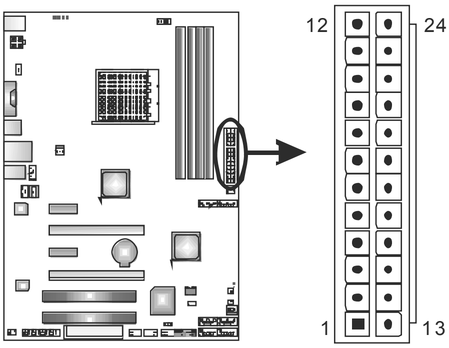
The motherboard has a PCI to SATA Controller with 6 channels SATA interface, it satisfies the SATA 3.0 spec and with transfer rate of 6.0Gb/s.



Pin	Assignment
1	Ground
2	TX+
3	TX-
4	Ground
5	RX-
6	RX+
7	Ground

ATXPWR1: ATX Power Source Connector

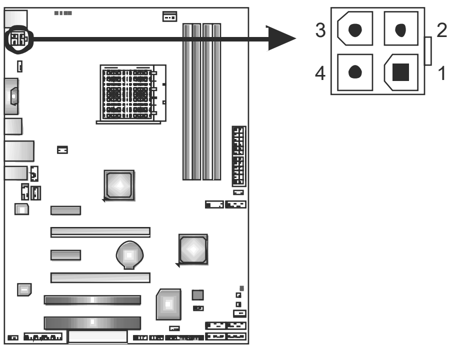
This connector allows user to connect 24-pin power connector on the ATX power supply.



Pin	Assignment	Pin	Assignment
13	+3.3V	1	+3.3V
14	-12V	2	+3.3V
15	Ground	3	Ground
16	PS_ON	4	+5V
17	Ground	5	Ground
18	Ground	6	+5V
19	Ground	7	Ground
20	NC	8	PW_OK
21	+5V	9	Standby Voltage+5V
22	+5V	10	+12V
23	+5V	11	+12V
24	Ground	12	+3.3V

ATXPWR2: ATX Power Source Connector

This connector provides +12V to CPU power circuit.



Pin	Assignment
1	+12V
2	+12V
3	+12V
4	+12V
5	Ground
6	Ground
7	Ground
8	Ground

Note:

Before you power on the system, please make sure that both ATXPWR1 and ATXPWR2 connectors have been plugged-in.

PEX16_1: PCI-Express Gen2 x16 Slot

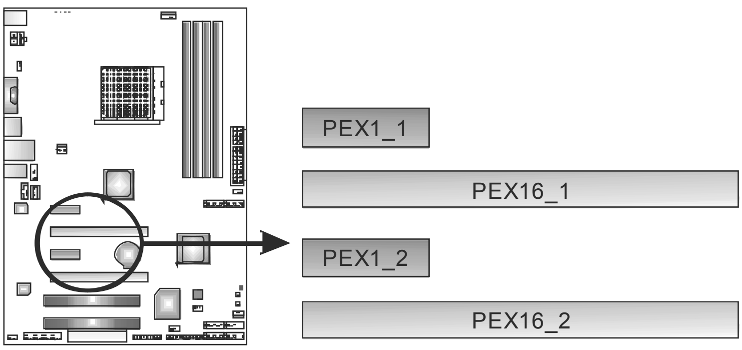
- PCI-Express 2.0 compliant.
- Maximum theoretical realized bandwidth of 8GB/s simultaneously per direction, for an aggregate of 16GB/s totally.
- PCI-Express Gen2 supports a raw bit-rate of 5.0Gb/s on the data pins.

PEX16_2: PCI-Express Gen2 x4 Slot

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 2GB/s per direction;4GB/s in total.
- PCI-Express Gen2 supports a raw bit-rate of 2.5Gb/s on the data pins.

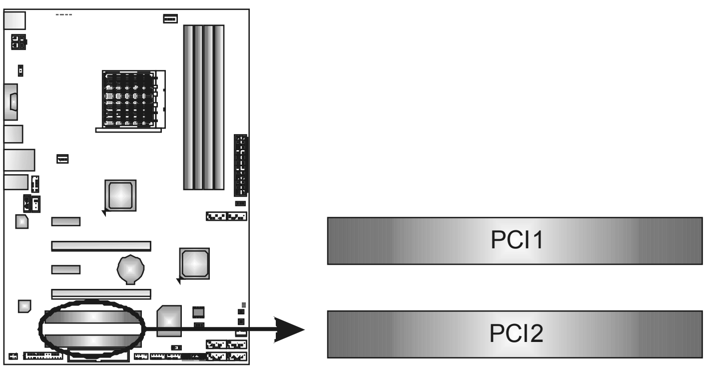
PEX1_1/PEX1_2: PCI-Express Gen2 x1 Slot

- PCI-Express 2.0 compliant.
- Data transfer bandwidth up to 250MB/s per direction; 500MB/s in total.



PCI1/PCI2: Peripheral Component Interconnect Slots

This motherboard is equipped with 2 standard PCI slots. PCI stands for Peripheral Component Interconnect, and it is a bus standard for expansion cards. This PCI slot is designated as 32 bits.



CHAPTER 3: HEADERS & JUMPERS SETUP

3.1 How to Setup Jumpers

The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is "close", if not, that means the jumper is "open".



Pin opened



Pin closed

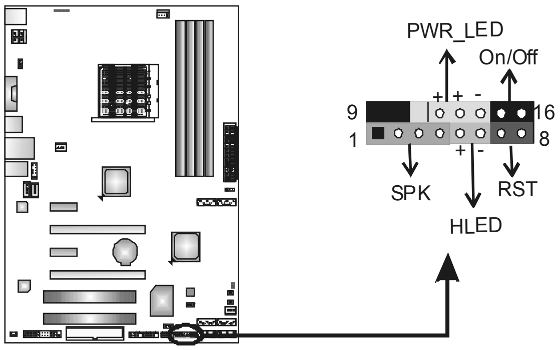


Pin1-2 closed

3.2 Detail Settings

PANEL1: Front Panel Header

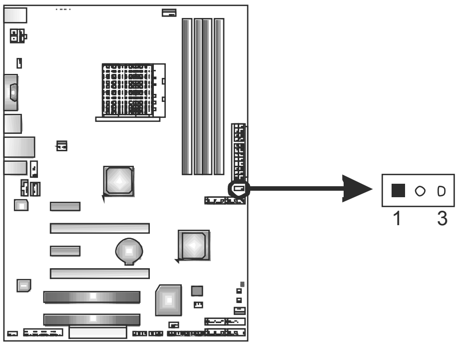
This 16-pin connector includes Power-on, Reset, HDD LED, Power LED, and speaker connection. It allows user to connect the PC case's front panel switch functions.

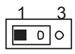


Pin	Assignment	Function	Pin	Assignment	Function
1	+5V	Speaker Connector	9	N/A	N/A
2	N/A		10	N/A	
3	N/A		11	N/A	N/A
4	Speaker		12	Power LED (+)	Power LED
5	HDD LED (+)	Hard drive LED	13	Power LED (+)	
6	HDD LED (-)		14	Power LED (-)	
7	Ground	Reset button	15	Power button	Power-on button
8	Reset control		16	Ground	

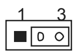
JCMOS1: Clear CMOS Header

Placing the jumper on pin2-3 allows user to restore the BIOS safe setting and the CMOS data. Please carefully follow the procedures to avoid damaging the motherboard.





Pin 1-2 Close:
Normal Operation (default).



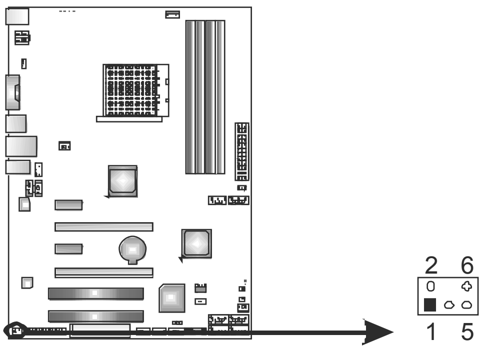
Pin 2-3 Close:
Clear CMOS data.

※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to “Pin 2-3 close”.
3. Wait for five seconds.
4. Set the jumper to “Pin 1-2 close”.
5. Power on the AC.
6. Reset your desired password or clear the CMOS data.

CIR1: Consumer IR Connector

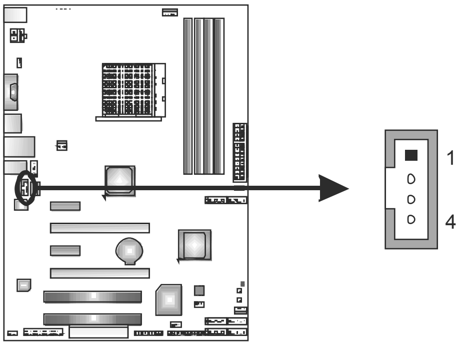
This header is for infrared remote control and communication.



Pin	Assignment
1	IrDA serial input
2	Ground
3	Ground
4	Key
5	IrDA serial output
6	IR Power

CD_IN1: CD-ROM Audio-in Connector

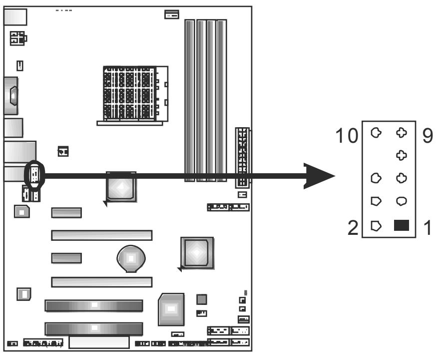
This connector allows user to connect the audio source from the variaty devices, like CD-ROM, DVD-ROM, PCI sound card, PCI TV turner card etc.



Pin	Assignment
1	Left Channel Input
2	Ground
3	Ground
4	Right Channel Input

F_AUDIO1: Front Panel Audio Header

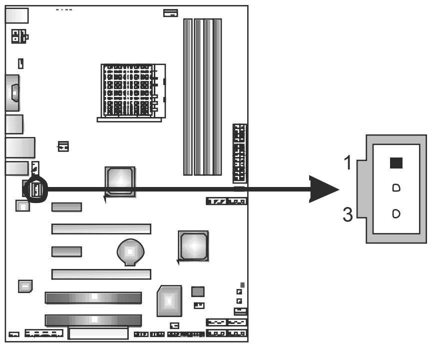
This header allows user to connect the front audio output cable with the PC front panel. This header allows only HD audio front panel connector; AC'97 connector is not acceptable.



Pin	Assignment
1	Mic Left in
2	Ground
3	Mic Right in
4	GPIO
5	Right line in
6	Jack Sense
7	Front Sense
8	Key
9	Left line in
10	Jack Sense

JSPDIFOUT1: Digital Audio-out Connector

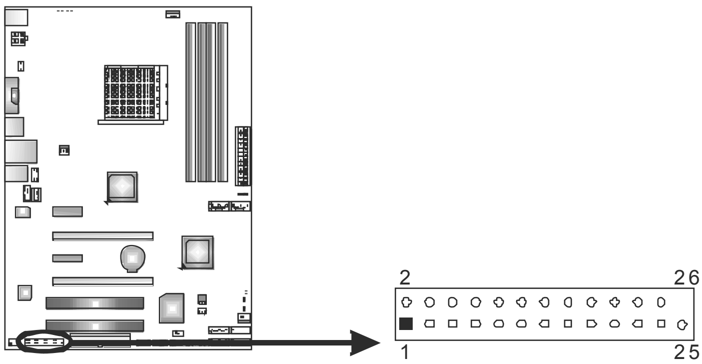
This connector allows user to connect the PCI bracket SPDIF output header.



Pin	Assignment
1	+5V
2	SPDIF_OUT
3	Ground

J_PRINT1: Printer Port Connector

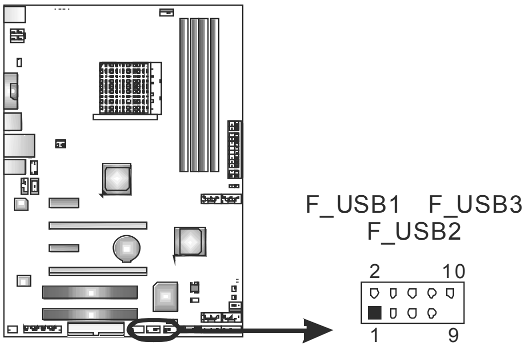
This header allows you to connector printer on the PC.



Pin	Assignment	Pin	Assignment
1	-Strobe	14	Ground
2	-ALF	15	Data 6
3	Data 0	16	Ground
4	-Error	17	Data 7
5	Data 1	18	Ground
6	-Init	19	-ACK
7	Data 2	20	Ground
8	-Scltin	21	Busy
9	Data 3	22	Ground
10	Ground	23	PE
11	Data 4	24	Ground
12	Ground	25	SCLT
13	Data 5	26	Key

F_USB1~F_USB3: Headers for USB 2.0 Ports at Front Panel

These headers allow user to connect additional USB cable on the PC front panel, and also can be connected with internal USB devices, like USB card reader.



Pin	Assignment
1	+5V (fused)
2	+5V (fused)
3	USB-
4	USB-
5	USB+
6	USB+
7	Ground
8	Ground
9	Key
10	NC

JUSBV1/JUSBV2: Power Source Headers for USB Ports

Pin 1-2 Close:

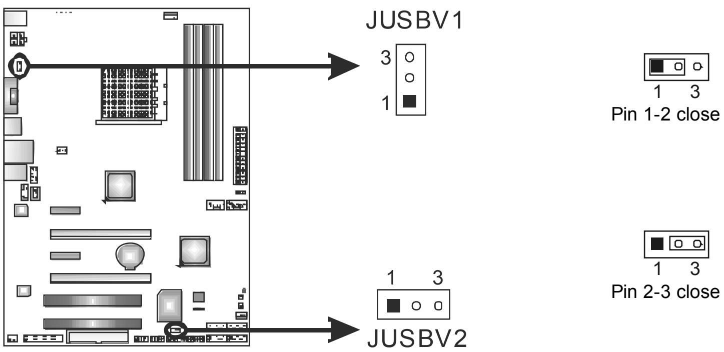
JUSBV1: +5V for USB ports at KBMS1/USB1/RJ45USB1.

JUSBV2: +5V for USB ports at F_USB1/F_USB2/F_USB3.

Pin 2-3 Close:

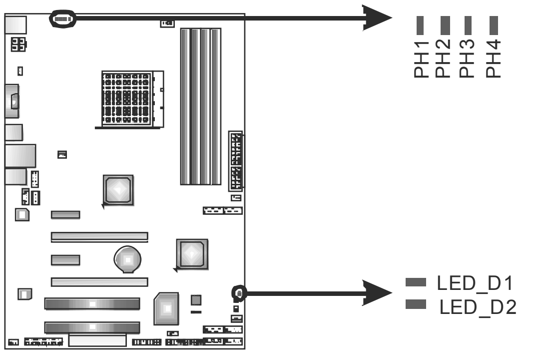
JUSBV1: +5V STB for USB ports at KBMS1/USB1/RJ45USB1.

JUSBV2: +5V STB for USB ports at F_USB1/F_USB2/F_USB3.



On-Board LED Indicators

There are 6 LED indicators showing system status.



LED_D1 & LED_D2: Debug Indicators

PH1 ~ PH4: Power Status Indicators

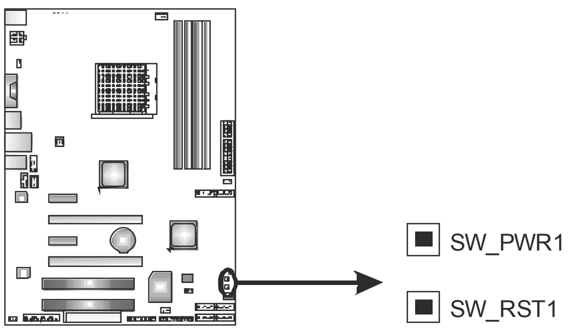
Please refer to the tables below for specific messages:

LED_D1	LED_D2	Message
ON	ON	Normal
ON	OFF	Memory Error
OFF	ON	VGA Error
OFF	OFF	Abnormal: CPU / Chipset error.

PH1_LED~PH4_LED	Phase Indicator
ON	Phase Active
OFF	Phase Disable

On-Board Buttons

There are 2 on-board buttons.



SW_RST1: Reset button.
SW_PWR1: Power Switch button.

CHAPTER 4: RAID FUNCTIONS

4.1 Operating System

Supports Windows XP, Windows Vista, and Windows 7.

4.2 RAID Arrays

RAID supports the following types of RAID arrays:

RAID 0: RAID 0 defines a disk striping scheme that improves disk read and write times for many applications.

RAID 1: RAID 1 defines techniques for mirroring data.

RAID 10: RAID 10 combines the techniques used in RAID 0 and RAID 1.

RAID 5: RAID 5 provides fault tolerance and better utilization of disk capacity.

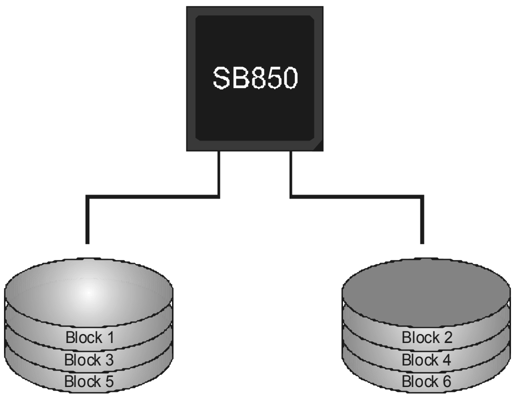
4.3 How RAID Works

RAID 0:

The controller "stripes" data across multiple drives in a RAID 0 array system. It breaks up a large file into smaller blocks and performs disk reads and writes across multiple drives in parallel. The size of each block is determined by the stripe size parameter, which you set during the creation of the RAID set based on the system environment. This technique reduces overall disk access time and offers high bandwidth.

Features and Benefits

- ***Drives:*** Minimum 2, and maximum is up to 6 or 8. Depending on the platform.
- ***Uses:*** Intended for non-critical data requiring high data throughput, or any environment that does not require fault tolerance.
- ***Benefits:*** provides increased data throughput, especially for large files. No capacity loss penalty for parity.
- ***Drawbacks:*** Does not deliver any fault tolerance. If any drive in the array fails, all data is lost.
- ***Fault Tolerance:*** No.



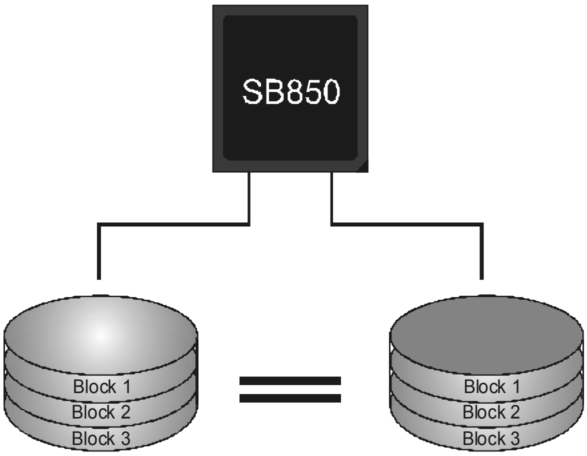
RAID 1:

Every read and write is actually carried out in parallel across 2 disk drives in a RAID 1 array system. The mirrored (backup) copy of the data can reside on the same disk or on a second redundant drive in the array. RAID 1 provides a hot-standby copy of data if the active volume or drive is corrupted or becomes unavailable because of a hardware failure.

RAID techniques can be applied for high-availability solutions, or as a form of automatic backup that eliminates tedious manual backups to more expensive and less reliable media.

Features and Benefits

- ***Drives:*** Minimum 2, and maximum is 2.
- ***Uses:*** RAID 1 is ideal for small databases or any other application that requires fault tolerance and minimal capacity.
- ***Benefits:*** Provides 100% data redundancy. Should one drive fail, the controller switches to the other drive.
- ***Drawbacks:*** Requires 2 drives for the storage space of one drive. Performance is impaired during drive rebuilds.
- ***Fault Tolerance:*** Yes.

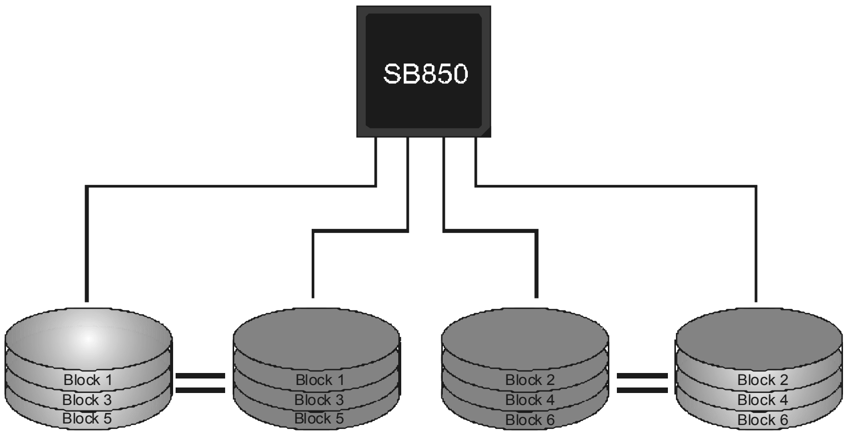


RAID 10:

RAID 1 drives can be stripped using RAID 0 techniques. Resulting in a RAID 10 solution for improved resiliency, performance and rebuild performance.

Features and Benefits

- ***Drives:*** Minimum 4, and maximum is 6 or 8, depending on the platform.
- ***Benefits:*** Optimizes for both fault tolerance and performance, allowing for automatic redundancy. May be simultaneously used with other RAID levels in an array, and allows for spare disks.
- ***Drawbacks:*** Requires twice the available disk space for data redundancy, the same as RAID level 1.
- ***Fault Tolerance:*** Yes.

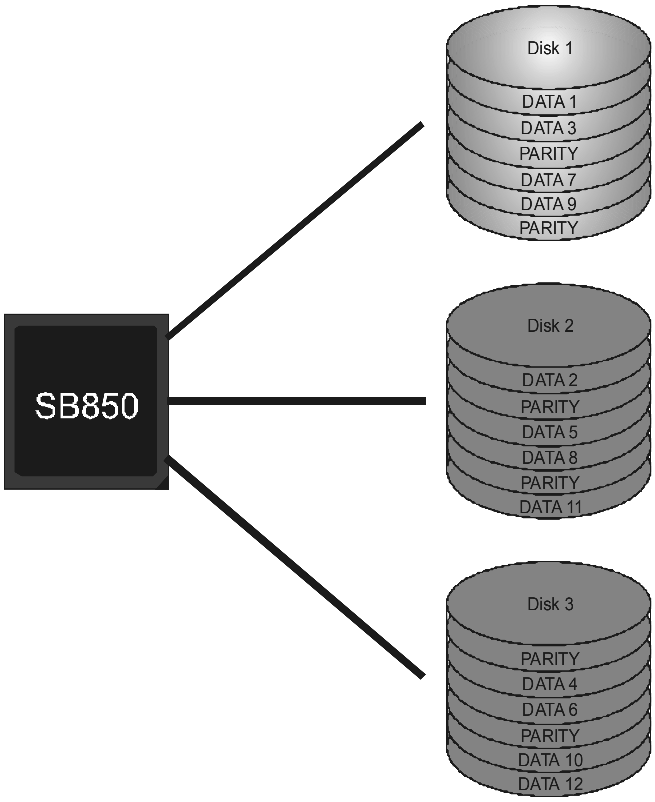


RAID 5:

RAID 5 stripes both data and parity information across three or more drives. It writes data and parity blocks across all the drives in the array. Fault tolerance is maintained by ensuring that the parity information for any given block of data is placed on a different drive from those used to store the data itself.

Features and Benefits

- ***Drives:*** Minimum 3.
- ***Uses:*** RAID 5 is recommended for transaction processing and general purpose service.
- ***Benefits:*** An ideal combination of good performance, good fault tolerance, and high capacity and storage efficiency.
- ***Drawbacks:*** Individual block data transfer rate same as a single disk. Write performance can be CPU intensive.
- ***Fault Tolerance:*** Yes.



CHAPTER 5: T-SERIES BIOS & SOFTWARE

5.1 T-SERIES BIOS

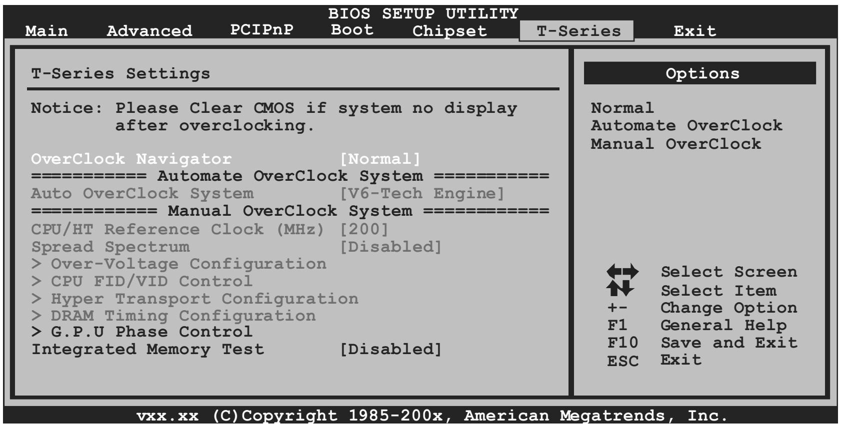
T-Series BIOS Features

- Overclocking Navigator Engine (O.N.E.)
- Memory Integration Test (M.I.T., under Overclock Navigator Engine)
- BIO-Flasher: Update BIOS file from USB Flash Drive or FDD
- Self Recovery System (S.R.S)
- Smart Fan Function
- CMOS Reloading Program

> *!! WARNING !!*
> For better system performance, the BIOS firmware is being continuously updated. The BIOS information described below in this manual is for your reference only and the actual BIOS information and settings on board may be different from this manual. For further information of setting up the BIOS, please refer to the BIOS Manual in the Setup CD.

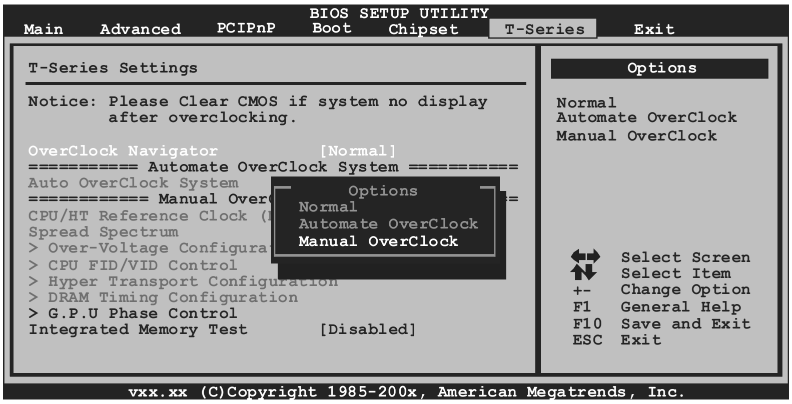
A. Overclocking Navigator Engine (O.N.E.)

ONE provides two powerful overclocking engines: MOS and AOS for both Elite and Casual overclockers.

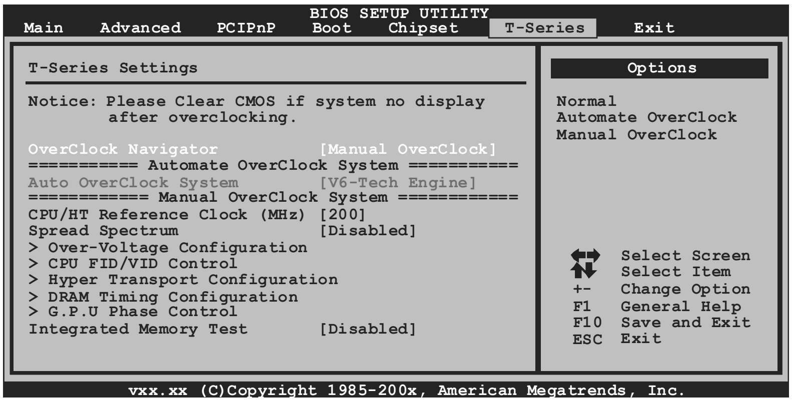


Manual Overclock System (M.O.S.)

MOS is designed for experienced overclock users.
It allows users to customize personal overclock settings.



↓



CPU/HT Reference Clock (MHz)

This item allows BIOS to select CPU Over Clock.

Spread Spectrum

This item allows you to control Spread Spectrum function.

Over-Voltage Configuration

Enter this function for more advanced voltage settings.

CPU FID/VID Control

Enter this function for more advanced CPU settings.

Hyper Transport Configuration

Enter this function for more advanced Hyper Transport settings.

DRAM Timing Configuration

Enter this function for more advanced DRAM clock settings.

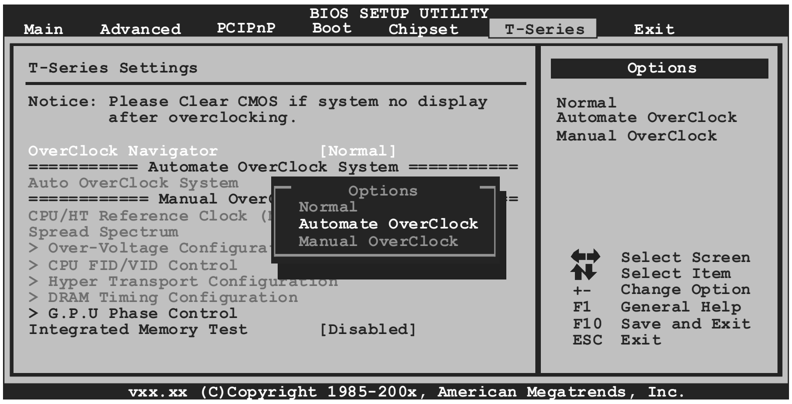
G.P.U Phase Control

Enter this function for more power saving settings.

> ***NOTE***
>
> Overclock is an optional process, but not a "must-do" process; it is not recommended for inexperienced users. Therefore, we will not be responsible for any hardware damage which may be caused by overclocking. We also would not guarantee any overclocking performance.

Automatic Overclock System (A.O.S.)

For beginners in overclock field, BET had developed an easy, fast, and powerful feature to increase the system performance, named A.O.S. Based on many tests and experiments, A.O.S. provides 3 ideal overclock configurations that are able to raise the system performance in a single step.



V6 Tech Engine

This engine will make a good over-clock performance.

```
                         BIOS SETUP UTILITY
 Main    Advanced    PCIPnP    Boot    Chipset    T-Series     Exit

 T-Series Settings                                     Options
 ──────────────────────────────────────────────────
 Notice: Please Clear CMOS if system no display       V6-Tech Engine
         after overclocking.                          V8-Tech Engine
                                                      V12-Tech Engine
 OverClock Navigator           [Automate OverClock]
 ========== Automate OverClock System ==========
 Auto OverClock System         [V6-Tech Engine]
 =========== Manual OverClock System ===========
 CPU/HT Reference Clock (MHz) [200]
 Spread Spectrum               [Disabled]
 > Over-Voltage Configuration                              Select Screen
 > CPU FID/VID Control                                     Select Item
 > Hyper Transport Configuration                      +-   Change Option
 > DRAM Timing Configuration                          F1   General Help
 > G.P.U Phase Control                                F10  Save and Exit
 Integrated Memory Test        [Disabled]             ESC  Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

V8 Tech Engine

This engine will make a better over-clock performance.

```
                         BIOS SETUP UTILITY
 Main    Advanced    PCIPnP    Boot    Chipset    T-Series     Exit

 T-Series Settings                                     Options
 ──────────────────────────────────────────────────
 Notice: Please Clear CMOS if system no display       V6-Tech Engine
         after overclocking.                          V8-Tech Engine
                                                      V12-Tech Engine
 OverClock Navigator           [Automate OverClock]
 ========== Automate OverClock System ==========
 Auto OverClock System         [V8-Tech Engine]
 =========== Manual OverClock System ===========
 CPU/HT Reference Clock (MHz) [200]
 Spread Spectrum               [Disabled]
 > Over-Voltage Configuration                              Select Screen
 > CPU FID/VID Control                                     Select Item
 > Hyper Transport Configuration                      +-   Change Option
 > DRAM Timing Configuration                          F1   General Help
 > G.P.U Phase Control                                F10  Save and Exit
 Integrated Memory Test        [Disabled]             ESC  Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

V12 Tech Engine

This engine will make a best over-clock performance.

```
                         BIOS SETUP UTILITY
 Main    Advanced    PCIPnP    Boot    Chipset    T-Series     Exit

 T-Series Settings                                     Options
 ──────────────────────────────────────────────────
 Notice: Please Clear CMOS if system no display       V6-Tech Engine
         after overclocking.                          V8-Tech Engine
                                                      V12-Tech Engine
 OverClock Navigator           [Automate OverClock]
 ========== Automate OverClock System ==========
 Auto OverClock System         [V12-Tech Engine]
 =========== Manual OverClock System ===========
 CPU/HT Reference Clock (MHz) [200]
 Spread Spectrum               [Disabled]
 > Over-Voltage Configuration                              Select Screen
 > CPU FID/VID Control                                     Select Item
 > Hyper Transport Configuration                      +-   Change Option
 > DRAM Timing Configuration                          F1   General Help
 > G.P.U Phase Control                                F10  Save and Exit
 Integrated Memory Test        [Disabled]             ESC  Exit

           vxx.xx (C)Copyright 1985-200x, American Megatrends, Inc.
```

Notices:

Not all types of AMD CPU perform above overclock setting ideally; the difference will be based on the selected CPU model.

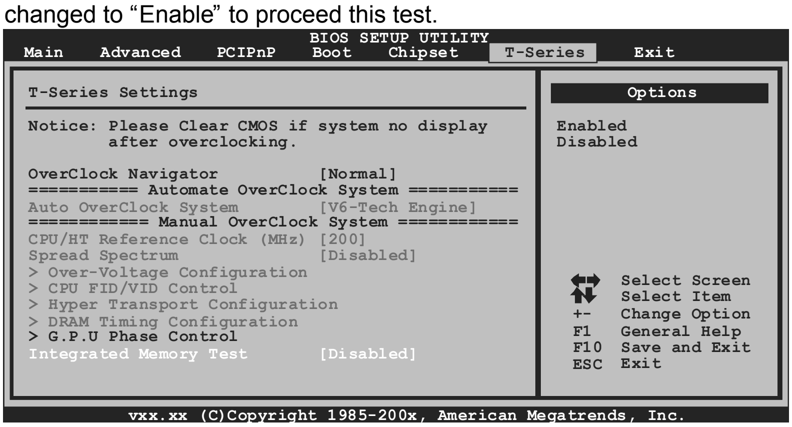
B. Memory Integration Test (M.I.T.)

This function is under "Overclocking Navigator Engine" item.

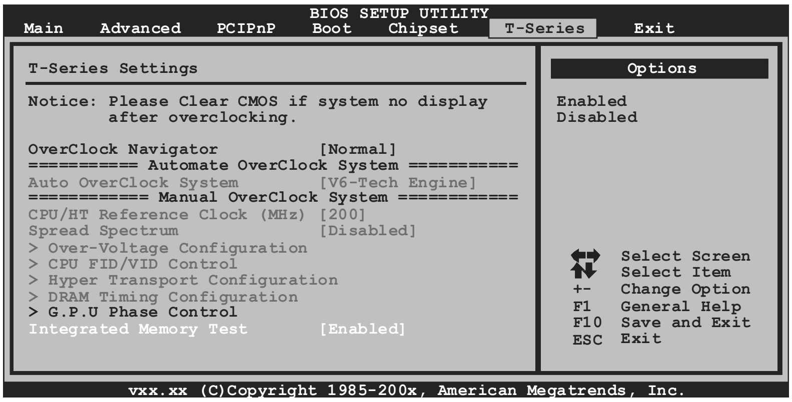
MIT allows users to test memory compatibilities, and no extra devices or software are needed.

Step 1

The default setting under this item is "Disabled"; the condition parameter should be changed to "Enable" to proceed this test.



↓



Step 2

Save and Exit from CMOS setup and reboot the system to activate this test.

Run this test for 5 minutes (minimum) to ensure the memory stability.

Step 3

When the process is done, change the setting back from "Enable" to "Disable" to complete the test.

C. BIO-Flasher

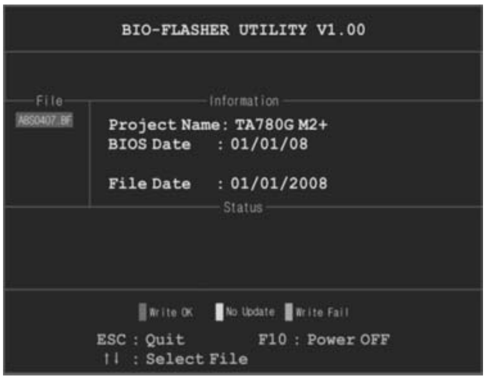
BIO-Flasher is a BIOS flashing utility providing you an easy and simple way to update your BIOS via USB pen drive or floppy disk.

The BIO-Flasher is built in the BIOS chip. To enter the utility, **press <F12> during the Power-On Self Tests (POST)** procedure while booting up.

Updating BIOS with BIO-Flasher

1. Go to the website to download the latest BIOS file for the motherboard.
2. Then, save the BIOS file into a USB pen drive or a floppy disk.
3. Insert the USB pen drive or the floppy disk that contains the BIOS file to the USB port or the floppy disk drive.
4. Power on or reset the computer and then press **<F12>** during the **POST** process.
   A select dialog as the picture on the right appears.
   Select the device contains the BIOS file and press **<Enter>** to enter the utility.





5. The utility will show the BIOS files and their respective information. Select the proper BIOS file and press **<Enter>** then **<Y>** to perform the BIOS update process.
6. After the update process, the utility will ask you to reboot the system. Press **<Y>** to proceed. BIOS update completes.



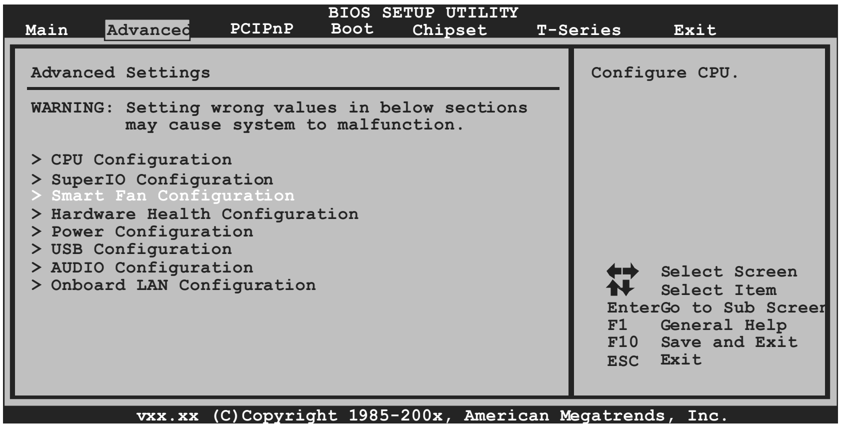
- This utility only allows storage device with FAT32/16 format and single partition.
- Shutting down or resetting the system while updating the BIOS will lead to system boot failure.

D. Self Recovery System (S.R.S.)

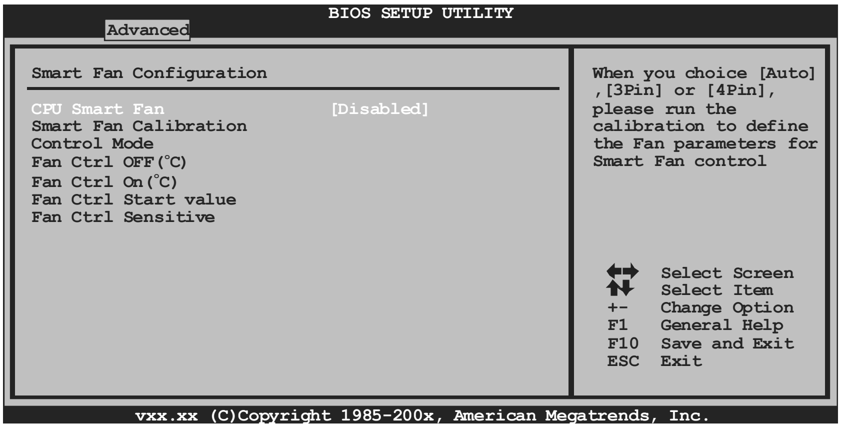
This function can't be seen under BIOS setup; and is always on whenever the system starts up.
However, it can prevent system hang-up due to inappropriate overclock actions.
When the system hangs up, S.R.S. will automatically log in the default BIOS setting, and all overclock settings will be re-configured.

E. Smart Fan Function

Smart Fan Function is under "Smart Fan Configuration" in "Advanced Menu".
This is a brilliant feature to control CPU/System Temperature vs. Fan speed.
When enabling Smart Fan function, Fan speed is controlled automatically by CPU/System temperature.
This function will protect CPU/System from overheat problem and maintain the system temperature at a safe level.



↓



Smart Fan Calibration

Choose this item and then the BIOS will automatically test and detect the CPU/System fan functions and show CPU/System fan speed.

Control Mode

This item provides several operation modes of the fan.

Fan Ctrl OFF(℃)

If the CPU/System temperature is lower than the set value, the CPU/System fan will turn off. The range is from 0~127, with an interval of 1.

Fan Ctrl On(℃)

The CPU/System fan starts to work when CPU/System temperature arrives to this set value. The range is from 0~127, with an interval of 1.

Fan Ctrl Start Value

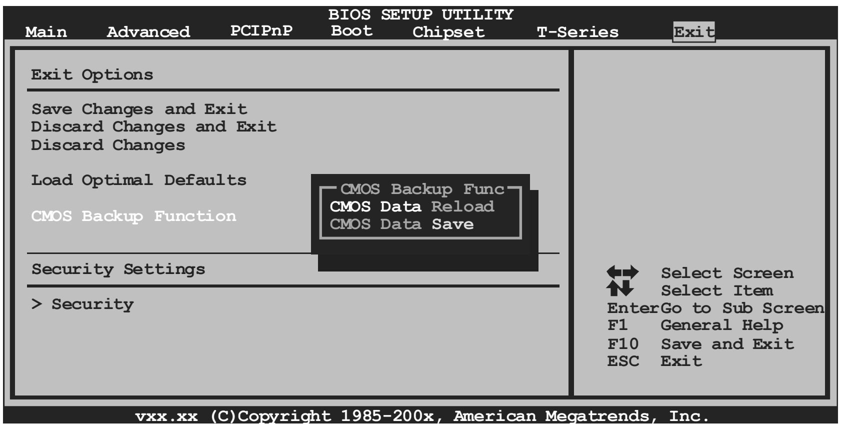
When CPU/System temperature arrives to the set value, the CPU/System fan will work under Smart Fan Function mode. The range is from 0~127, with an interval of 1.

Fan Ctrl Sensitive

Increasing the value of slope PWM will raise the speed of CPU/System fan. The range is from 1~127, with an interval of 1.

F. CMOS Reloading Program

It allows users to save different CMOS settings into BIOS-ROM.
Users are able to reload any saved CMOS setting for customizing system configurations. Moreover, users are able to save an ideal overclock setting during overclock operation.
There are 10 sets of record addresses in total, and users are able to name the CMOS data according to personal preference.



5.2 T-Series Software

Installing T-Series Software

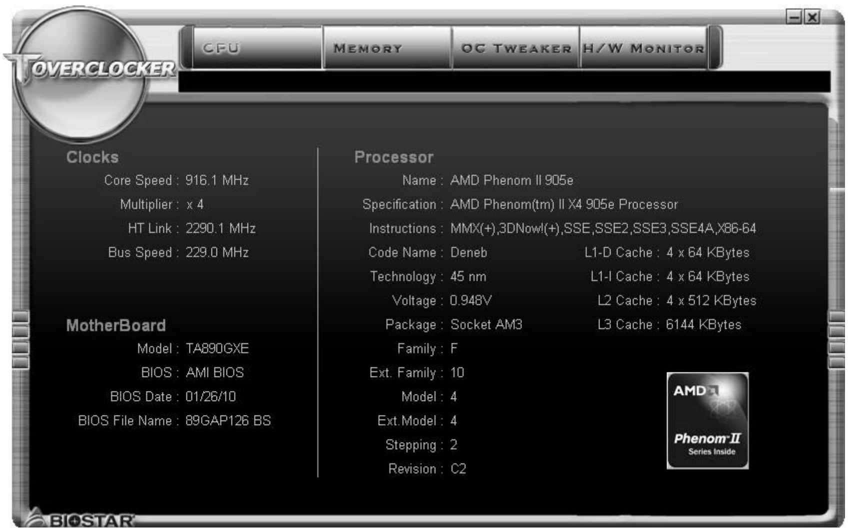
1. Insert the Setup CD to the optical drive. The drivers installation program would appear if the Auto-run function has been enabled.
2. Select **Software Installation**, and then click on the respective software title.
3. Follow the on-screen instructions to complete the installation.

Launching T-Series Software

After the installation process is completed, you will see the software icon showing on the desktop. Double-click the icon to launch it.

TOverclocker

TOverclocker presents a simple Windows-based system performance enhancement and manageability utility. It features several powerful and easy to use tools such as Overclocking for enhancing system performance, also for special enhancement on CPU and Memory. Smart-Fan management and PC health are for monitoring system status.This utility also allows you to make overclocking profiles saving unlimitedly, and pre-set OC modes are for easy OC. (The illustration below is for reference only)



CPU

The **CPU** tab provides information on the CPU and motherboard.

MEMORY

The **Memory** tab provides information on the memory module(s).

You can select memory module on a specific slot to see its information.

OC TWEAKER

The **OC Tweaker** tab allows you to change system clock settings and voltages settings. It also provides six pre-set modes for you:



Six Pre-set Modes: V3, V6, V9, V12, V15, AUTO for different overclocking experience.





The **HW Monitor** tab allows you to monitor hardware voltage, fan speed, and temperature. Besides, you also can set related values for CPU Smart Fan.



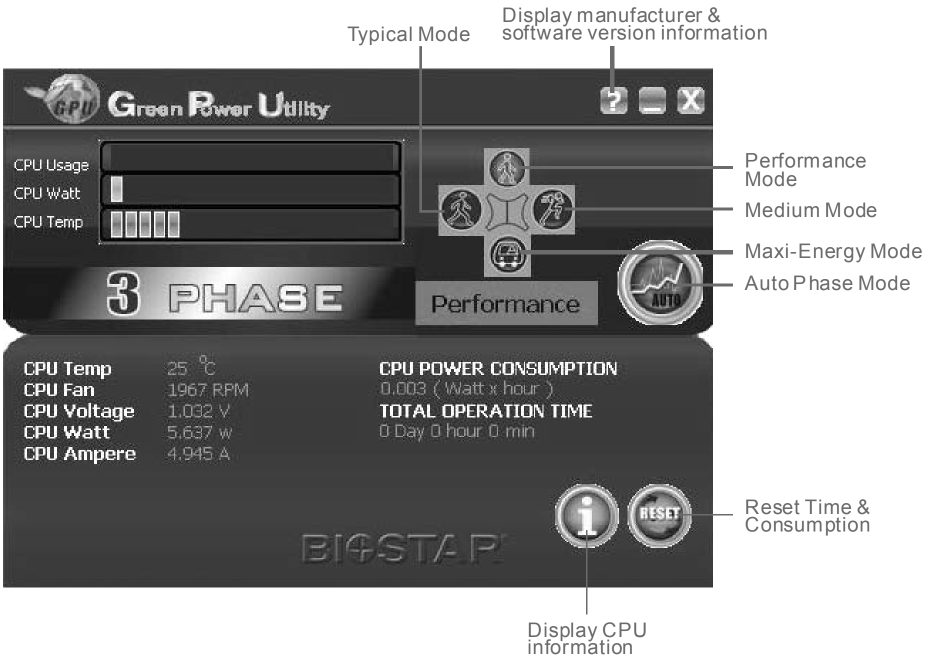
TOVERCLOCKER

Pressing **TOVERCLOCKER** logo will display information about manufacturer and software version. You can update currnet version by clicking the button “Live Update.”



Green Power II Utility

BIOSTAR G.P.U II (Green Power Utility) is a new function. The utility enhances energy efficiency by disabling extra phases while CPU is on light loading; it features 4+1 power phases, current power saving, and toal power saving. This tool integrates a friendly GUI to monitor your CPU Usage, CPU Watt, and CPU Temperature. Moreover, it optimizes power saving and best power efficiency on your system. (The illustration below is for reference only)



G.P.U Mode Setting

This utility provides five modes, upon your requirements, to improve system performance or to save power consumption.

Note: Even if the modes saving more power consumption are chosen, the system still can keep excellent performance.

- **Auto Phase Mode**
  System switches the mode automatically according to current system loading condition.

- **Performance Mode**
  This is the mode saving power consumption most. Least energy will be used in the system.

- **Typical Mode**
  Compared with that in Performance Mode, energy consumption in this mode is a little bit more.

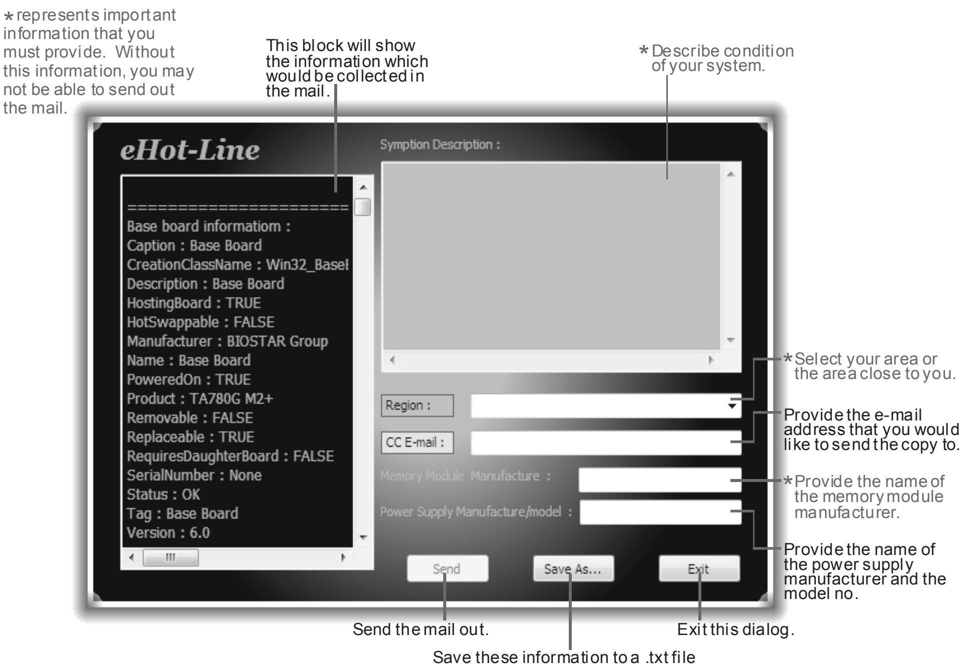
- **Medium Mode**
  This is the standard system power saving mode.

- **Maxi-Energy Mode**
  This is the best system performance mode.

eHot-Line (Optional)

eHot-Line is a convenient utility that helps you to contact with our Tech-Support system. This utility will collect the system information which is useful for analyzing the problem you may have encountered, and then send these information to our tech-support department to help you fix the problem.

⚠ Before you use this utility, please set Outlook Express as your default e-mail client application program.

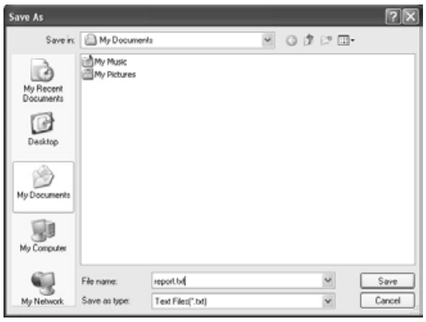


After filling up this information, click "**Send**" to send the mail out. A warning dialog would appear asking for your confirmation; click "**Send**" to confirm or "**Do Not Send**" to cancel.



If you want to save this information to a .txt file, click "**Save As…**" and then you will see a saving dialog appears asking you to enter file name.

Enter the file name and then click "**Save**". Your system information will be saved to a .txt file.





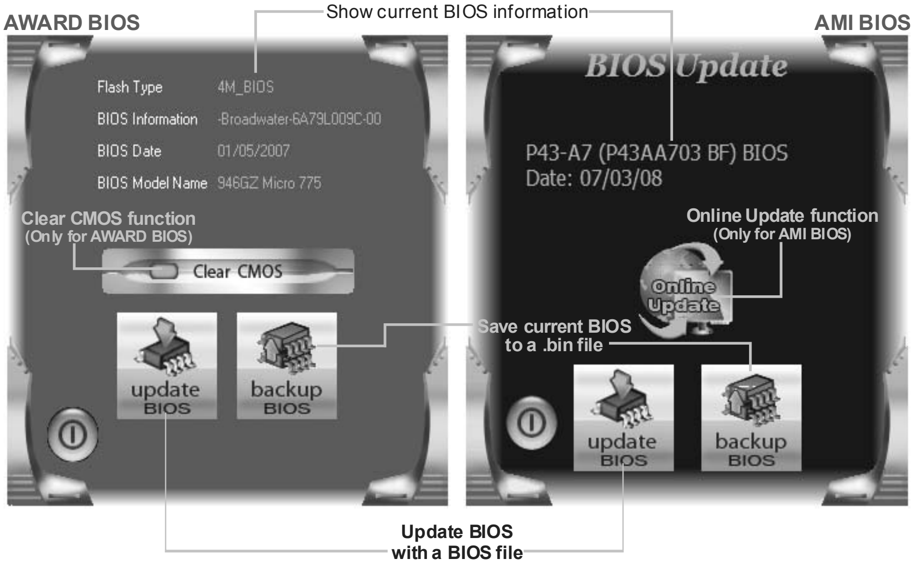
Open the saved .txt file, you will see your system information including motherboard/BIOS/CPU/video/device/OS information. This information is also concluded in the sent mail.

We will not share customer's data with any other third parties, so please feel free to provide your system information while using eHot-Line service.

If you are not using Outlook Express as your default e-mail client application, you may need to save the system information to a .txt file and send the file to our tech support with other e-mail application. Go to the following web http://www.biostar.com.tw/app/en-us/about/contact.php for getting our contact information.

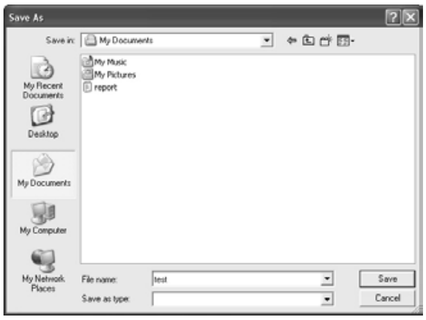
BIOS Update

BIOS Update is a convenient utility which allows you to update your motherboard BIOS under Windows system.



<Backup BIOS>

Once click on this button, the saving dialog will show. Choose the position to save file and enter file name. (We recommend that the file name should be English/number and no longer than 7 characters.) Then click **Save**.

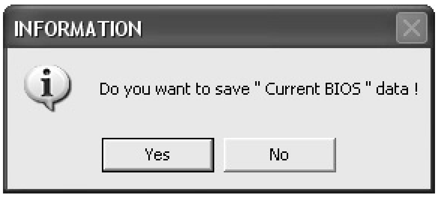


<Update BIOS>

Before doing this, please download the proper BIOS file from the website.

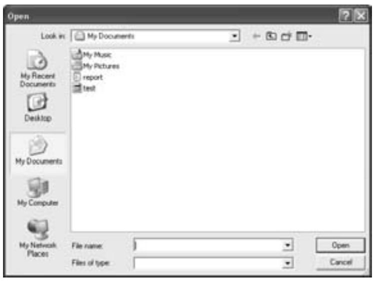
For AWARD BIOS, update BIOS procedure should be run with Clear CMOS function, so please check on Clear CMOS first.

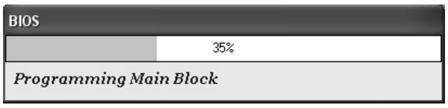




Then click Update BIOS button, a dialog will show for asking you backup current BIOS. Click **Yes** for BIOS backup and refer to the Backup BIOS procedure; or click **No** to skip this procedure.

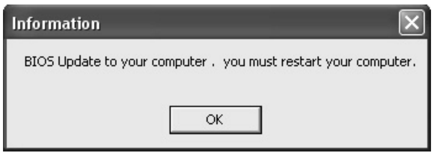
After the BIOS Backup procedure, the open dialog will show for requesting the BIOS file which is going to be updated. Please choose the proper BIOS file for updating, then click on **Open**.





The utility will update BIOS with the proper BIOS file, and this process may take minutes. Please do not open any other applications during this process.

After the BIOS Update process, click on **OK** to restart the system.



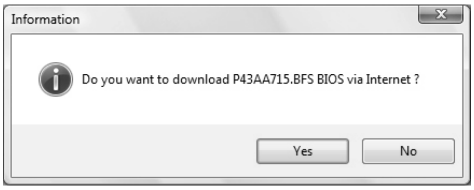
While the system boots up and the full screen logo shows, press  <Delete> key to enter BIOS setup.

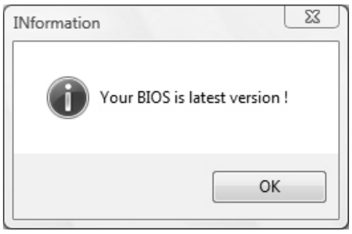
In the BIOS setup, use the **Load Optimized Defaults** function and then **Save and Exit Setup** to exit BIOS setup. BIOS Update is completed.

<Online Update> *(for AMI BIOS only)*

Automatically download and update the latest BIOS via internet; **make sure that the computer is connected to the internet before using this function.**

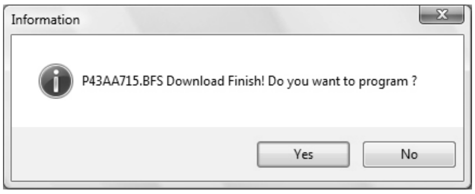
After clicking on the **Onlinr Update** button, the utility will search for the latest BIOS from internet. If there is a new BIOS version, the utility will ask you to download it. Click **Yes** to proceed.



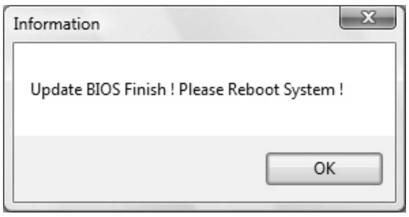


If there is no other newer BIOS version, the utility will also tell you that your BIOS has been the latest version.

Download completes; the utility will ask you to program (update) the BIOS. Click **Yes** to proceed.



The programing procedure may take minutes, **please do not make any operation during the programing process.**



After the updating process, the utility will ask you to reboot the system. Click **OK** to reboot.

While the system boots up and the full screen logo shows, press Del <Delete> key to enter BIOS setup.

In the BIOS setup, use the **Load Optimized Defaults** function and then **Save and Exit Setup** to exit BIOS setup. Online Update is completed.

All the information and content above about the T-Series software are subject to be changed without notice. For better performance, the software is being continuously updated. The information and pictures described above are for your reference only. The actual information and settings on board may be slightly different from this manual.

CHAPTER 6: USEFUL HELP

6.1 DRIVER INSTALLATION NOTE

After you installed your operating system, please insert the Fully Setup Driver CD into your optical drive and install the driver for better system performance.

You will see the following window after you insert the CD



The setup guide will auto detect your motherboard and operating system.

> **Note:**
> If this window didn't show up after you insert the Driver CD, please use file browser to locate and execute the file ***SETUP.EXE*** under your optical drive.

A. Driver Installation

To install the driver, please click on the Driver icon. The setup guide will list the compatible driver for your motherboard and operating system. Click on each device driver to launch the installation program.

B. Software Installation

To install the software, please click on the Software icon. The setup guide will list the software available for your system, click on each software title to launch the installation program.

C. Manual

Aside from the paperback manual, we also provide manual in the Driver CD. Click on the Manual icon to browse for available manual.

> **Note:**
> You will need Acrobat Reader to open the manual file. Please download the latest version of Acrobat Reader software from
> ***http://www.adobe.com/products/acrobat/readstep2.html***

6.2 EXTRA INFORMATION

CPU Overheated

If the system shutdown automatically after power on system for seconds, that means the CPU protection function has been activated.

When the CPU is over heated, the motherboard will shutdown automatically to avoid a damage of the CPU, and the system may not power on again.

In this case, please double check:

1. The CPU cooler surface is placed evenly with the CPU surface.
2. CPU fan is rotated normally.
3. CPU fan speed is fulfilling with the CPU speed.

After confirmed, please follow steps below to relief the CPU protection function.

1. Remove the power cord from power supply for seconds.
2. Wait for seconds.
3. Plug in the power cord and boot up the system.

Or you can:

1. Clear the CMOS data.
   (See “Close CMOS Header: JCMOS1” section)
2. Wait for seconds.
3. Power on the system again.

6.3 AMI BIOS BEEP CODE

Boot Block Beep Codes

Number of Beeps	Description
1	No media present. (Insert diskette in floppy drive A:)
2	"AMIBOOT.ROM" file not found in root directory of diskette in A:
3	Insert next diskette if multiple diskettes are used for recovery
4	Flash Programming successful
5	File read error
7	No Flash EPROM detected
10	Flash Erase error
11	Flash Program error
12	"AMIBOOT.ROM" file size error
13	BIOS ROM image mismatch (file layout does not match image present in flash device)

POST BIOS Beep Codes

Number of Beeps	Description
1	Memory refresh timer error
3	Base memory read/write test error
6	Keyboard controller BAT command failed
7	General exception error (processor exception interrupt error)
8	Display memory error (system video adapter)

Troubleshooting POST BIOS Beep Codes

Number of Beeps	Troubleshooting Action
1, 3	Reseat the memory, or replace with known good modules.
6, 7	Fatal error indicating a serious problem with the system. Consult your system manufacturer. Before declaring the motherboard beyond all hope, eliminate the possibility of interference by a malfunctioning add-in card. Remove all expansion cards except the video adapter. ● If beep codes are generated when all other expansion cards are absent, consult your system manufacturer's technical support. ● If beep codes are not generated when all other expansion cards are absent, one of the add-in cards is causing the malfunction. Insert the cards back into the system one at a time until the problem happens again. This will reveal the malfunctioning card.
8	If the system video adapter is an add-in card, replace or reseat the video adapter. If the video adapter is an integrated part of the system board, the board may be faulty.

6.4 AMI BIOS POST CODE

Checkpoint	Description
03	Disable NMI, Parity, video for EGA, and DMA controllers. Initialize BIOS, POST, Runtime data area. Also initialize BIOS modules on POST entry and GPNV area. Initialized CMOS as mentioned in the Kernel Variable "wCMOSFlags."
04	Check CMOS diagnostic byte to determine if battery power is OK and CMOS checksum is OK. Verify CMOS checksum manually by reading storage area. If the CMOS checksum is bad, update CMOS with power-on default values and clear passwords. Initialize status register A. Initializes data variables that are based on CMOS setup questions. Initializes both the 8259 compatible PICs in the system
05	Initializes the interrupt controlling hardware (generally PIC) and interrupt vector table.
06	Do R/W test to CH-2 count reg. Initialize CH-0 as system timer. Install the POSTINT1Ch handler. Enable IRQ-0 in PIC for system timer interrupt. Traps INT1Ch vector to "POSTINT1ChHandlerBlock."
07	Fixes CPU POST interface calling pointer.
08	Initializes the CPU. The BAT test is being done on KBC. Program the keyboard controller command byte is being done after Auto detection of KB/MS using AMI KB-5.
C0	Early CPU Init Start -- Disable Cache – Init Local APIC.
C1	Set up boot strap processor Information.
C2	Set up boot strap processor for POST.
C5	Enumerate and set up application processors.
C6	Re-enable cache for boot strap processor.
C7	Early CPU Init Exit.
0A	Initializes the 8042 compatible Key Board Controller.
0B	Detects the presence of PS/2 mouse.
0C	Detects the presence of Keyboard in KBC port.
0E	Testing and initialization of different Input Devices. Also, update the Kernel Variables. Traps the INT09h vector, so that the POST INT09h handler gets control for IRQ1. Uncompress all available language, BIOS logo, and Silent logo modules.
13	Early POST initialization of chipset registers.
20	Relocate System Management Interrupt vector for all CPU in the system.
24	Uncompress and initialize any platform specific BIOS modules. GPNV is initialized at this checkpoint.
2A	Initializes different devices through DIM. See DIM Code Checkpoints section of document for more information.
2C	Initializes different devices. Detects and initializes the video adapter installed in the system that have optional ROMs.
2E	Initializes all the output devices.
31	Allocate memory for ADM module and uncompress it. Give control to ADM module for initialization. Initialize language and font modules for ADM. Activate ADM module.
33	Initializes the silent boot module. Set the window for displaying text information.

Checkpoint	Description
37	Displaying sign-on message, CPU information, setup key message, and any OEM specific information.
38	Initializes different devices through DIM. See DIM Code Checkpoints section of document for more information. USB controllers are initialized at this point.
39	Initializes DMAC-1 & DMAC-2.
3A	Initialize RTC date/time.
3B	Test for total memory installed in the system. Also, Check for DEL or ESC keys to limit memory test. Display total memory in the system.
3C	Mid POST initialization of chipset registers.
40	Detect different devices (Parallel ports, serial ports, and coprocessor in CPU, etc.) successfully installed in the system and update the BDA, EBDA…etc.
52	Updates CMOS memory size from memory found in memory test. Allocates memory for Extended BIOS Data Area from base memory. Programming the memory hole or any kind of implementation that needs an adjustment in system RAM size if needed.
60	Initializes NUM-LOCK status and programs the KBD typematic rate.
75	Initialize Int-13 and prepare for IPL detection.
78	Initializes IPL devices controlled by BIOS and option ROMs.
7C	Generate and write contents of ESCD in NVRam.
84	Log errors encountered during POST.
85	Display errors to the user and gets the user response for error.
87	Execute BIOS setup if needed / requested. Check boot password if installed.
8C	Late POST initialization of chipset registers.
8D	Build ACPI tables (if ACPI is supported).
8E	Program the peripheral parameters. Enable/Disable NMI as selected.
90	Initialization of system management interrupt by invoking all handlers. Please note this checkpoint comes right after checkpoint 20h.
A1	Clean-up work needed before booting to OS.
A2	Takes care of runtime image preparation for different BIOS modules. Fill the free area in F000h segment with 0FFh. Initializes the Microsoft IRQ Routing Table. Prepares the runtime language module. Disables the system configuration display if needed.
A4	Initialize runtime language module. Display boot option popup menu.
A7	Displays the system configuration screen if enabled. Initialize the CPU's before boot, which includes the programming of the MTRR's.
A9	Wait for user input at config display if needed.
AA	Uninstall POST INT1Ch vector and INT09h vector.
AB	Prepare BBS for Int 19 boot. Init MP tables.
AC	End of POST initialization of chipset registers. De-initializes the ADM module.
B1	Save system context for ACPI. Prepare CPU for OS boot including final MTRR values.
00	Passes control to OS Loader (typically INT19h).

6.5 Troubleshooting

Probable	Solution
1. There is no power in the system. Power LED does not shine; the fan of the power supply does not work 2. Indicator light on keyboard does not shine.	1. Make sure power cable is securely plugged in. 2. Replace cable. 3. Contact technical support.
System is inoperative. Keyboard lights are on, power indicator lights are lit, and hard drives are running.	Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.
System does not boot from a hard disk drive, but can be booted from optical drive.	1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup. 2. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.
System only boots from an optical drive. Hard disks can be read, applications can be used, but system fails to boot from a hard disk.	1. Back up data and applications files. 2. Reformat the hard drive. Re-install applications and data using backup disks.
Screen message shows "Invalid Configuration" or "CMOS Failure."	Review system's equipment. Make sure correct information is in setup.
System cannot boot after user installs a second hard drive.	1. Set master/slave jumpers correctly. 2. Run SETUP program and select correct drive types. Call the drive manufacturers for compatibility with other drives.

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APPENDIX: SPEC IN OTHER LANGUAGES

GERMAN

Spezifikationen		
CPU	Sockel AM3 AMD Sempron / Phenom II / Athlon II Prozessoren (Maximales Watt: 125W)	Die AMD 64-Architektur unterstützt eine 32-Bit- und 64-Bit-Datenverarbeitung Unterstützt Hyper Transport 3.0
FSB	Unterstützt HyperTransport 3.0 mit einer Bandbreite von bis zu 5.2 GT/s	
Chipsatz	AMD 870 AMD SB850	
Super E/A	ITE 8721 Bietet die häufig verwendeten alten Super E/A-Funktionen. Low Pin Count-Schnittstelle	Umgebungskontrolle, Hardware-Überwachung Lüfterdrehzahl-Controller "Smart Guardian"-Funktion von ITE
Arbeitsspeicher	DDR3 DIMM-Steckplätze x 4 Max. 16GB Arbeitsspeicher Jeder DIMM unterstützt 512MB/ 1GB/2GB/4GB DDR3.	Dual-Kanal DDR3 Speichermodul Unterstützt DDR3 800 / 1066 / 1333 Unterstützt DDR3 1600 (OC)
SATA III	Integrierter Serial ATA-Controller	Datentransferrate bis zu 6 Gb/s Konform mit der SATA-Spezifikation Version 3.0 Unterstützt RAID 0,1,5,10
LAN	Realtek RTL 8111E	10 / 100 / 1000 Mb/s Auto-Negotiation Halb-/ Vollduplex-Funktion
Audio-Codec	ALC662	5.1-Kanal-Audioausgabe Unterstützt High-Definition Audio
Steckplätze	PCI Steckplatz x2 PCI Express Gen2 x1 Steckplatz x2 PCI Express Gen2 x16 Steckplatz x2	
Onboard-Anschluss	SATA-Anschluss x6 Fronttafelanschluss x1 Front-Audioanschluss x1 CD-IN-Anschluss x1	Jeder Anschluss unterstützt 1 SATA-Laufwerk Unterstützt die Fronttafelfunktionen Unterstützt die Fronttafel-Audioanschlussfunktion Unterstützt die CD Audio-In-Funktion

Spezifikationen			
	S/PDIF Ausgangsanschluss	x1	Unterstützt die digitale Audioausgabefunktion
	Verbraucher-IR Anschluss	x1	
	CPU-Lüfter-Sockel	x1	CPU-Lüfterstromversorgungsanschluss (mit Smart Fan-Funktion)
	System-Lüfter-Sockel	x2	System-Lüfter-Stromversorgungsanschluss
	"CMOS löschen"-Sockel	x1	
	USB-Anschluss	x3	Jeder Anschluss unterstützt 2 Fronttafel-USB-Anschlüsse
	Druckeranschluss Anschluss	x1	Jeder Anschluss unterstützt 1 Druckeranschluss
	Stromanschluss (24-polig)	x1	
	Stromanschluss (4-polig)	x1	
Rückseiten-E/A	PS/2-Tastatur	x1	
	PS/2-Maus	x1	
	Serieller Anschluss	x1	
	LAN-Anschluss	x1	
	USB-Anschluss	x4	
	Audioanschluss	x3	
Platinengröße	305 mm (B) X 220 mm (L)		
OS-Unterstützung	Windows XP / Vista / 7		Biostar behält sich das Recht vor, ohne Ankündigung die Unterstützung für ein Betriebssystem hinzuzufügen oder zu entfernen.

FRENCH

SPEC		
UC	Socket AM3 Processeurs AMD Sempron / Phenom II / Athlon II (Watt maximum : 125W)	L'architecture AMD 64 permet le calcul 32 et 64 bits Prend en charge Hyper Transport 3.0
Bus frontal	Prend en charge Hyper Transport 3.0 jusqu'à une bande passante de 5.2 GT/s	
Chipset	AMD 870 AMD SB850	
Super E/S	ITE 8721 Fournit la fonctionnalité de Super E/S patrimoniales la plus utilisée. Interface à faible compte de broches	Initiatives de contrôle environnementales, Moniteur de matériel Contrôleur de vitesse de ventilateur Fonction "Gardien intelligent" de l'ITE
Mémoire principale	Fentes DDR3 DIMM x 4 Capacité mémoire maximale de 16 Go Chaque DIMM prend en charge des DDR3 de 512Mo/1Go/2Go/4Go	Module de mémoire DDR3 à mode à double voie Prend en charge la DDR3 800 / 1066 / 1333 Prend en charge la DDR3 1600 (OC)
SATA III	Contrôleur Serial ATA intégré	Taux de transfert jusqu'à 6 Go/s. Conforme à la spécification SATA Version 3.0 Prise en charge RAID 0,1,5,10
LAN	Realtek RTL 8111E	10 / 100 / 1000 Mb/s négociation automatique Half / Full duplex capability
Codec audio	ALC662	Sortie audio à 5.1 voies Prise en charge de l'audio haute définition
Fentes	Fente PCI x2 Fente PCI Express Gen2 x1 x2 Fente PCI Express Gen2 x16 x2	
Connecteur embarqué	Connecteur SATA x6	Chaque connecteur prend en charge 1 périphérique SATA
	Connecteur du panneau avant x1	Prend en charge les équipements du panneau avant
	Connecteur Audio du panneau avant x1	Prend en charge la fonction audio du panneau avant
	Connecteur d'entrée CD x1	Prend en charge la fonction d'entrée audio de CD

SPEC			
	Connecteur de sortie S/PDIF	x1	Prend en charge la fonction de sortie audio numérique
	Connecteur de IR du consommateur	x1	
	Embase de ventilateur UC	x1	Alimentation électrique du ventilateur UC (avec fonction de ventilateur intelligent)
	Embase de ventilateur système	x2	Alimentation électrique du ventilateur système
	Embase d'effacement CMOS	x1	
	Connecteur USB	x3	Chaque connecteur prend en charge 2 ports USB de panneau avant
	Connecteur de Port d'imprimante	x1	Chaque connector prend en charge 1 Port d'imprimante
	Connecteur d'alimentation (24 broches)	x1	
	Connecteur d'alimentation (4 broches)	x1	
E/S du panneau arrière	Clavier PS/2	x1	
	Souris PS/2	x1	
	Port série	x1	
	Port LAN	x1	
	Port USB	x4	
	Fiche audio	x3	
Dimensions de la carte	305 mm (l) X 220 mm (H)		
Support SE	Windows XP / Vista / 7		Biostar se réserve le droit d'ajouter ou de supprimer le support de SE avec ou sans préavis.

ITALIAN

SPECIFICA		
CPU	Socket AM3 Processori AMD Sempron / Phenom II / Athlon II (Watt massimo: 125W)	L'architettura AMD 64 abilita la computazione 32 e 64 bit Supporto di Hyper Transport 3.0
FSB	Supporto di HyperTransport 3.0 fino a 5.2 GT/s di larghezza di banda	
Chipset	AMD 870 AMD SB850	
Super I/O	ITE 8721 Fornisce le funzionalità legacy Super I/O usate più comunemente. Interfaccia LPC (Low Pin Count)	Funzioni di controllo dell'ambiente: Monitoraggio hardware Controller velocità ventolina Funzione "Smart Guardian" di ITE
Memoria principale	Alloggi DIMM DDR3 x 4 Capacità massima della memoria 16GB Ciascun DIMM supporta DDR3 512MB/1GB/2GB/4GB	Modulo di memoria DDR3 a canale doppio Supporto di DDR3 800 / 1066 / 1333 Supporto di DDR3 1600 (OC)
SATA III	Controller Serial ATA integrato	Velocità di trasferimento dei dati fino a 6 Gb/s. Compatibile specifiche SATA Versione 3.0 Supporto RAID 0,1,5,10
LAN	Realtek RTL 8111E	Negoziazione automatica 10 / 100 / 1000 Mb/s Capacità Half / Full Duplex
Codec audio	ALC662	Uscita audio 5.1 canali Supporto audio High-Definition (HD)
Alloggi	Alloggio PCI x2 Alloggio PCI Express Gen2 x1 x2 Alloggio PCI Express Gen2 x16 x2	
Connettori su scheda	Connettore SATA x6 Connettore pannello frontale x1 Connettore audio frontale x1 Connettore CD-in x1 Connettore output S/PDIF x1	Ciascun connettore supporta 1 unità SATA Supporta i servizi del pannello frontale Supporta la funzione audio pannello frontale Supporta la funzione input audio CD Supporta la funzione d'output audio digitale

SPECIFICA			
	Connettore IR del consumatore	x1	
	Collettore ventolina CPU	x1	Alimentazione ventolina CPU (con funzione Smart Fan)
	Collettore ventolina sistema	x2	Alimentazione ventolina di sistema
	Collettore cancellazione CMOS	x1	
	Connettore USB	x3	Ciascun connettore supporta 2 porte USB pannello frontale
	Connettore Porta stampante	x1	Ciascun connettore supporta 1 Porta stampante
	Connettore alimentazione (24 pin)	x1	
	Connettore alimentazione (4 pin)	x1	
I/O pannello posteriore	Tastiera PS/2	x1	
	Mouse PS/2	x1	
	Porta seriale	x1	
	Porta LAN	x1	
	Porta USB	x4	
	Connettore audio	x3	
Dimensioni scheda	305 mm (larghezza) x 220 mm (altezza)		
Sistemi operativi supportati	Windows XP / Vista / 7		Biostar si riserva il diritto di aggiungere o rimuovere il supporto di qualsiasi sistema operativo senza preavviso.

SPANISH

Especificación		
CPU	Conector AM3 Procesadores AMD Sempron / Phenom II / Athlon II (Vatio máximo: 125W)	La arquitectura AMD 64 permite el procesado de 32 y 64 bits Soporta las tecnologías Hyper Transport 3.0
FSB	Admite HyperTransport 3.0 con un ancho de banda de hasta 5.2 GT/s	
Conjunto de chips	AMD 870 AMD SB850	
Súper E/S	ITE 8721 Le ofrece las funcionalidades heredadas de uso más común Súper E/S. Interfaz de cuenta Low Pin	Iniciativas de control de entorno, Monitor hardware Controlador de velocidad de ventilador Función "Guardia inteligente" de ITE
Memoria principal	Ranuras DIMM DDR3 x 4 Capacidad máxima de memoria de 16GB Cada DIMM admite DDR de 512MB/1GB/2GB/4GB	Módulo de memoria DDR3 de canal Doble Admite DDR3 de 800 / 1066 / 1333 Admite DDR3 de 1600 (OC)
SATA III	Controlador ATA Serie Integrado	Tasas de transferencia de hasta 6 Gb/s. Compatible con la versión SATA 3.0 Admite RAID 0,1,5,10
Red Local	Realtek RTL 8111E	Negociación de 10 / 100 / 1000 Mb/s Funciones Half / Full dúplex
Códecs de sonido	ALC662	Salida de sonido de 5.1 canales Soporte de sonido de Alta Definición
Ranuras	Ranura PCI X2 Ranura PCI express Gen2 x1 X2 Ranura PCI express Gen2 x16 X2	
Conectores en placa	Conector SATA X6 Conector de panel frontal X1 Conector de sonido frontal X1 Conector de entrada de CD X1 Conector de salida S/PDIF X1	Cada conector soporta 1 dispositivos SATA Soporta instalaciones en el panel frontal Soporta funciones de sonido en el panel frontal Soporta función de entrada de sonido de CD Soporta función de salida de sonido digital

Especificación			
	Conector de IR del consumidor	X1	
	Cabecera de ventilador de CPU	X1	Fuente de alimentación de ventilador de CPU (con función Smart Fan)
	Cabecera de ventilador de sistema	X2	Fuente de alimentación de ventilador de sistema
	Cabecera de borrado de CMOS	X1	
	Conector USB	X3	Cada conector soporta 2 puertos USB frontales
	Conector Puerto de impresora	X1	Cada conector soporta 1 Puerto de impresora
	Conector de alimentación (24 patillas)	X1	
	Conector de alimentación (4 patillas)	X1	
Panel trasero de E/S	Teclado PS/2	X1	
	Ratón PS/2	X1	
	Puerto serie	X1	
	Puerto de red local	X1	
	Puerto USB	X4	
	Conector de sonido	X3	
Tamaño de la placa	305 mm. (A) X 220 mm. (H)		
Soporte de sistema operativo	Windows XP / Vista / 7		Biostar se reserva el derecho de añadir o retirar el soporte de cualquier SO con o sin aviso previo.

PORTUGUESE

ESPECIFICAÇÕES		
CPU	Socket AM3 Processadores AMD Sempron / Phenom II / Athlon II (Watt máximo: 125W)	A arquitectura AMD 64 permite uma computação de 32 e 64 bits Suporta as tecnologias Hyper Transport 3.0
FSB	Suporta a tecnologia HyperTransport 3.0 com uma largura de banda até 5.2 GT/s	
Chipset	AMD 870 AMD SB850	
Especificação Super I/O	ITE 8721 Proporciona as funcionalidades mais utilizadas em termos da especificação Super I/O. Interface LPC (Low Pin Count).	Iniciativas para controlo do ambiente Monitorização do hardware Controlador da velocidade da ventoinha Função "Smart Guardian" da ITE
Memória principal	Ranhuras DIMM DDR3 x 4 Capacidade máxima de memória: 16 GB Cada módulo DIMM suporta uma memória DDR3 de 512MB/ 1GB/2GB/4GB	Módulo de memória DDR3 de canal duplo Suporta módulos DDR3 800 / 1066 / 1333 Suporta módulos DDR3 1600 (OC)
SATA III	Controlador Serial ATA integrado	Velocidades de transmissão de dados até 6 Gb/s. Compatibilidade com a especificação SATA versão 3.0 Suporta as funções RAID 0,1,5,10
LAN	Realtek RTL 8111E	Auto negociação de 10 / 100 / 1000 Mb/s Capacidade semi/full-duplex
Codec de som	ALC662	Saída de áudio de 5.1 canais Suporta a especificação High-Definition Audio
Ranhuras	Ranhura PCI x2 Ranhura PCI Express Gen2 x1 x2 Ranhura PCI Express Gen2 x16 x2	
Conectores na placa	Conector SATA x6 Conector do painel frontal x1 Conector de áudio frontal x1 Conector para entrada de CDs x1	Cada conector suporta 1 dispositivo SATA Para suporte de várias funções no painel frontal Suporta a função de áudio no painel frontal Suporta a entrada de áudio a partir de CDs

ESPECIFICAÇÕES			
	Conector de saída S/PDIF	x1	Suporta a saída de áudio digital
	Conector de IR do consumidor	x1	
	Conector da ventoinha da CPU	x1	Alimentação da ventoinha da CPU (com a função Smart Fan)
	Conector da ventoinha do sistema	x2	Alimentação da ventoinha do sistema
	Conector para limpeza do CMOS	x1	
	Conector USB	x3	Cada conector suporta 2 portas USB no painel frontal
	Conector da para impressora	x1	Cada conector suporta 1 Porta para impressora
	Conector de alimentação (24 pinos)	x1	
	Conector de alimentação (4 pinos)	x1	
Entradas/Saídas no painel traseiro	Teclado PS/2	x1	
	Rato PS/2	x1	
	Porta série	x1	
	Porta LAN	x1	
	Porta USB	x4	
	Tomada de áudio	x3	
Tamanho da placa	305 mm (L) X 220 mm (A)		
Sistemas operativos suportados	Windows XP / Vista / 7		A Biostar reserva-se o direito de adicionar ou remover suporte para qualquer sistema operativo com ou sem aviso prévio.

POLISH

SPEC		
Procesor	Socket AM3 AMD Sempron / Phenom II / Athlon II Procesory (Maksymalny Watt: 125W)	Architektura AMD 64 umożliwia przetwarzanie 32 i 64 bitowe Obsługa Hyper Transport 3.0
FSB	Obsługa HyperTransport 3.0 o szerokości pasma do 5.2 GT/s	
Chipset	AMD 870 AMD SB850	
Pamięć główna	Gniazda DDR3 DIMM x 4 Maks. wielkość pamięci 16GB Każde gniazdo DIMM obsługuje moduły 512MB/1GB/2GB/4GB DDR3	Moduł pamięci DDR3 z trybem podwójnego kanału Obsługa DDR3 800 / 1066 / 1333 Obsługa DDR3 1600 (OC)
Super I/O	ITE 8721 Zapewnia najbardziej powszechne funkcje Super I/O. Interfejs Low Pin Count	Funkcje kontroli warunków pracy, Monitor H/W Kontroler prędkości wentylatora Funkcja ITE "Smart Guardian"
SATA III	Zintegrowany kontroler Serial ATA	Transfer danych do 6 Gb/s. Zgodność ze specyfikacją SATA w wersji 3.0 Obsługa RAID 0,1,5,10
LAN	Realtek RTL 8111E	10 / 100 / 1000 Mb/s z automatyczną negocjacją szybkości Działanie w trybie połowicznego/pełnego dupleksu
Kodek dźwiękowy	ALC662	5.1 kanałowe wyjście audio Obsługa High-Definition Audio
Gniazda	Gniazdo PCI x2 Gniazdo PCI Express Gen2 x1 x2 Gniazdo PCI Express Gen2 x16 x2	
Złącza wbudowane	Złącze SATA x6 Złącze panela przedniego x1 Przednie złącze audio x1 Złącze wejścia CD x1	Każde złącze obsługuje 1 urządzenie SATA Obsługa elementów panela przedniego Obsługa funkcji audio na panelu przednim Obsługa funkcji wejścia audio CD

SPEC			
	Złącze wyjścia S/PDIF	x1	Obsługa funkcji cyfrowego wyjścia audio
	Złącze Konsument IR	x1	
	Złącze główkowe wentylatora procesora	x1	Zasilanie wentylatora procesora (z funkcją Smart Fan)
	Złącze główkowe wentylatora systemowego	x2	Zasilanie wentylatora systemowego
	Złącze główkowe kasowania CMOS	x1	
	Złącze USB	x3	Każde złącze obsługuje 2 porty USB na panelu przednim
	Złącze Port drukarki	x1	Każde złącze obsługuje 1 Port drukarki
	Złącze zasilania (24 pinowe)	x1	
	Złącze zasilania (4 pinowe)	x1	
Back Panel I/O	Klawiatura PS/2	x1	
	Mysz PS/2	x1	
	Port szeregowy	x1	
	Port LAN	x1	
	Port USB	x4	
	Gniazdo audio	x3	
Wymiary płyty	305 mm (S) X 220 mm (W)		
Obsługa systemu operacyjnego	Windows XP / Vista / 7		Biostar zastrzega sobie prawo dodawania lub odwoływania obsługi dowolnego systemu operacyjnego bez powiadomienia.

RUSSIAN

СПЕЦ		
CPU (центральный процессор)	Гнездо AM3 Процессоры AMD Sempron / Phenom II / Athlon II (Максимальный ватт: 125W)	Архитектура AMD 64 разрешать обработка данных на 32 и 64 бит Поддержка Hyper Transport 3.0
FSB	Поддержка HyperTransport 3.0 с пропускной способностью до 5.2 GT/s	
Набор микросхем	AMD 870 AMD SB850	
Основная память	Слоты DDR3 DIMM x 4 Максимальная ёмкость памяти 16 ГБ Каждый модуль DIMM поддерживает 512МБ/1ГБ/2ГБ/4ГБ DDR3	Модуль памяти с двухканальным режимом DDR3 Поддержка DDR3 800 / 1066 / 1333 Поддержка DDR3 1600 (OC)
Super I/O	ITE 8721 Обеспечивает наиболее используемые действующие функциональные возможности Super I/O. Интерфейс с низким количеством выводов	Инициативы по охране окружающей среды, Аппаратный монитор Регулятор скорости Функция ITE "Smart Guardian" (Интеллектуальная защита)
SATA III	Встроенное последовательное устройство управления ATA	скорость передачи данных до 6 гигабит/с. Соответствие спецификации SATA версия 3.0 Поддержка RAID 0,1,5,10
Локальная сеть	Realtek RTL 8111E	Автоматическое согласование 10 / 100 / 1000 Мб/с Частичная / полная дуплексная способность
Звуковой кодек	ALC662	Звуковая поддержка High-Definition 5.1канальный звуковой выход
Слоты	Слот PCI x2 Слот PCI Express Gen2 x1 x2 Слот PCI Express Gen2 x16 x2	
Встроенный разъём	Разъём SATA x6	Каждый разъём поддерживает 1 устройство SATA
	Разъём на лицевой панели x1	Поддержка устройств на лицевой панели
	Входной звуковой разъём x1	Поддержка звуковых функций на лицевой панели
	Разъём ввода для CD x1	Поддержка функции ввода для CD

СПЕЦ			
	Разъём вывода для S/PDIF	x1	Поддержка вывода цифровой звуковой функции
	Разъём едока ИКЫЙ	x1	
	Контактирующее приспособление вентилятора центрального процессора	x1	Источник питания для вентилятора центрального процессора (с функцией интеллектуального вентилятора)
	Контактирующее приспособление вентилятора системы	x2	Источник питания для вентилятора системы
	Открытое контактирующее приспособление CMOS	x1	
	USB-разъём	x3	Каждый разъём поддерживает 2 USB-порта на лицевой панели
	Разъём Порт подключения принтера	x1	Каждый разъём поддерживает 1 Порт подключения принтера
	Разъем питания (24 вывод)	x1	
	Разъем питания (4 вывод)	x1	
Задняя панель средств ввода-вывода	Клавиатура PS/2	x1	
	Мышь PS/2	x1	
	Последовательный порт	x1	
	Порт LAN	x1	
	USB-порт	x4	
	Гнездо для подключения наушников	x3	
Размер панели	305 мм (Ш) X 220 мм (В)		
Поддержка OS	Windows XP / Vista / 7		Biostar сохраняет за собой право добавлять или удалять средства обеспечения для OS с или без предварительного уведомления.

ARABIC

	المواصفات	
إجراء العمليات الحاسوبية بسرعة 32 و 64 بت AMD 64 تمكّن تقنية و Hyper Transport3.0 تدعم تقنية	مقبس AM3 معالجات AMD Sempron / Phenom II / Athlon II (125 و: قصــوى واط)	وحدة المعالجة المركزية
	5.2 بتردد يصل إلى HyperTransport 3.0 تدعم تقنية GT/s	الناقل الأمامي الجانبي
	AMD 870 AMD SB850	مجموعة الشرائح
مزدوجة القناة DDR3 وحدة ذاكرة سعات 800 / 1066 / 1333 ميجابايت DDR3 تدعم الذاكرة من نوع 1600 (OC) سعات DDR3 نـوع من الذاكرة تـدعم	فتحة DDR3 DIMM عدد 4 سعة ذاكرة قصوى 16 جيجا بايت ميجا 512/ سعة DDR3 تدعم ذاكرة من نوع DIMM تدعم كل فتحة بايت 1/ 2/ و 4 جيجا بايت	الذاكرة الرئيسية
وسائل التحكم في البيئة: مراقب لمعرفة حالة الأجهزة مراقب في سرعة المروحة ITE من "Smart Guardian" وظيفة	ITE 8721 الأكثر استخداماً. Super I/O توفر وظيفة Low Pin Count Interface تدعم تقنية	Super I/O
نقل البيانات بسرعات تصل إلى 6 جيجابت/ثانية. 3.0 الإصدار SATA مطابقة لمواصفات RAID 0,1,5,10 تدعم تقنية	متحكم Serial ATA متكامل	SATA III
تفاوض تلقائي 100/10 ميجا بايت / ثانية و 1 جيجا بت/ثانية إمكانية النقل المزدوج الكامل/النصفي	Realtek RTL 8111E	شبكة داخلية
تدعم تقنية الصوت عالي التعريف من 5.1 قنوات خرج الصوت	ALC662	كوديك الصوت
	فتحة PCI عدد 2 فتحة PCI Express Gen2 x1 عدد 2 فتحة PCI Express Gen2 x16 عدد 2	الفتحات
SATA يدعم كل منفذ واحد من أجهزة يدعم تجهيزات اللوحة الأمامية	منفذ SATA عدد 6 منفذ اللوحة الأمامية عدد 1	المنافذ على سطح اللوحة

المواصفات			
	منفذ الصوت الأمامي	عدد 1	يدعم وظيفة الصوت باللوحة الأمامية
	منفذ CD-IN	عدد 1	المدمج القـرص صـوت دخل وظيفــة يـدعم
	منفذ خرج S/PDIF	عدد 1	يدعم وظيفة خرج الصوت الرقمي
	منفذ الأحمر تحـت مســـتهلكة	عدد 1	
	وصلة مروحة وحدة المعالجة المركزية	عدد 1	Smart Fan لتوصيل الطاقة لمروحة وحدة المعالجة مع وظيفة
	وصلة مروحة النظام	عد2	لتوصيل الطاقة لمروحة النظام
	وصلة مسح CMOS	عدد 1	
	منفذ USB	عدد 3	باللوحة الأمامية USB يدعم كل منفذ قحتي
	منفذ طابعة	عدد 1	
	منفذ توصيل الطاقة (24دبوس)	عدد 1	
	منفذ توصيل الطاقة (4دبابيس)	عدد 1	
مناقذ دخل/خرج اللوحة الخلفية	لوحة مفاتيح PS/2	عدد 1	
	ماوس PS/2	عدد 1	
	منفذ تسلسلي	عدد 1	
	منفذ شبكة اتصال محلية	عد1	
	مناقذ USB	عدد 4	
	مقبس صوت	عدد 3	
حجم اللوحة	305 مم (عرض) X 220 مم (ارتفاع)		
دعم أنظمة التشغيل	Windows XP / Vista / 7		Biostar تحتفظ بحقها في إضافة أو إزالة الدعم لأي نظام تشغيل بإخطار أو بدون إخطار.

JAPANESE

仕様		
CPU	Socket AM3 AMD Sempron / Phenom II / Athlon II プロセッサ (最高のワット: 125W)	AMD 64アーキテクチャでは、32ビットと64ビット計算が可能です ハイパートランスポート3.0サポートします
FSB	5.2 GT/sのバンド幅までハイパートランスポート3.0をサポートします	
チップセット	AMD 870 AMD SB850	
メインメモリ	DDR3 DIMMスロット x 4 最大メモリ容量16GB 各DIMMは 512MB/1GB/2GB/4GB DDR3をサポート	デュアル チャンネルモードDDR3 メモリモジュール DDR3 800 / 1066 / 1333 をサポート DDR3 1600 (OC) をサポート
Super I/O	ITE 8721 もっとも一般に使用されるレガシーSuper I/O機能を採用しています。 低ピンカウントインターフェイス	環境コントロールイニシアチブ、 H/W モニター ファン速度コントローラ/ モニター ITEの「スマートガーディアン」機能
SATA III	統合シリアルATA コントローラ	最高6 Gb/秒のデータ転送速度 SATAバージョン3.0仕様に準拠。 RAID 0,1,5,10のサポート
LAN	Realtek RTL 8111E	10 / 100 / 1000 Mb/秒のオートネゴシエーション 半/全二重機能
サウンド Codec	ALC662	ハイデフィニションオーディオのサポート 5.1 チャンネルオーディオアウト
スロット	PCIスロット x2 PCI Express Gen2 x1スロット x2 PCI Express Gen2 x16スロット x2	
オンボードコネクタ	SATAコネクタ x6 フロントパネルコネクタ x1 フロントオーディオコネクタ x1	各コネクタは1つのSATAデバイスをサポートします フロントパネル機能をサポートします フロントパネルオーディオ機能をサポートします

仕様			
	CDインコネクタ	x1	CDオーディオイン機能をサポートします
	S/PDIFアウトコネクタ	x1	デジタルオーディオアウト機能をサポートします
	消費者IRコネクタ	x1	
	CPUファンヘッダ	x1	CPUファン電源装置(スマートファン機能を搭載)
	システムファンヘッダ	x2	システムファン電源装置
	CMOSクリアヘッダ	x1	
	USBコネクタ	x3	各コネクタは2つのフロントパネルUSBポートをサポートします
	プリンタポートコネクタ	x1	各コネクタは1つのプリンタポートをサポートします
	電源コネクタ(24ピン)	x1	
	電源コネクタ(4ピン)	x1	
背面パネルI/O	PS/2キーボード	x1	
	PS/2マウス	x1	
	シリアルポート	x1	
	LANポート	x1	
	USBポート	x4	
	オーディオジャック	x3	
ボードサイズ	305 mm (幅) X 220 mm (高さ)		
OSサポート	Windows XP / Vista / 7		Biostarは事前のサポートなしにOSサポートを追加または削除する権利を留保します。

2010/03/26